ARCHAEOLOGY IN NEWFOUNDLAND & LABRADOR
1984

EDITED BY
JANE SPROULL THOMSON
CALLUM THOMSON

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HISTORIC RESOURCES DIVISION
DEPARTMENT OF CULTURE, RECREATION & YOUTH
GOVERNMENT OF NEWFOUNDLAND & LABRADOR

ARCHAEOLOGY IN NEWFOUNDLAND AND LABRADOR 1984

Annual Report #5

Edited by: Jane Sproull Thomson
Callum Thomson

Newfoundland Museum
St. John's, Newfoundland
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Cover photo of an etching found on the Red Bay underwater wreck site in 1983, by Parks Canada. See Stevens article, this volume.

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FOREWORD

This is the fifth volume in the Archaeology in Newfoundland and Labrador Annual Report series, which was conceived in 1980 to present preliminary results of archaeological fieldwork from researchers holding provincial research permits in that year. On occasion we have also published unsolicited papers, and reports on sites outside of provincial jurisdiction. While the principal focus of this series will continue to be on disseminating as quickly as possible results of current archaeology projects, we would be pleased to consider for publication in another format any paper pertaining to archaeological research in Newfoundland and Labrador.

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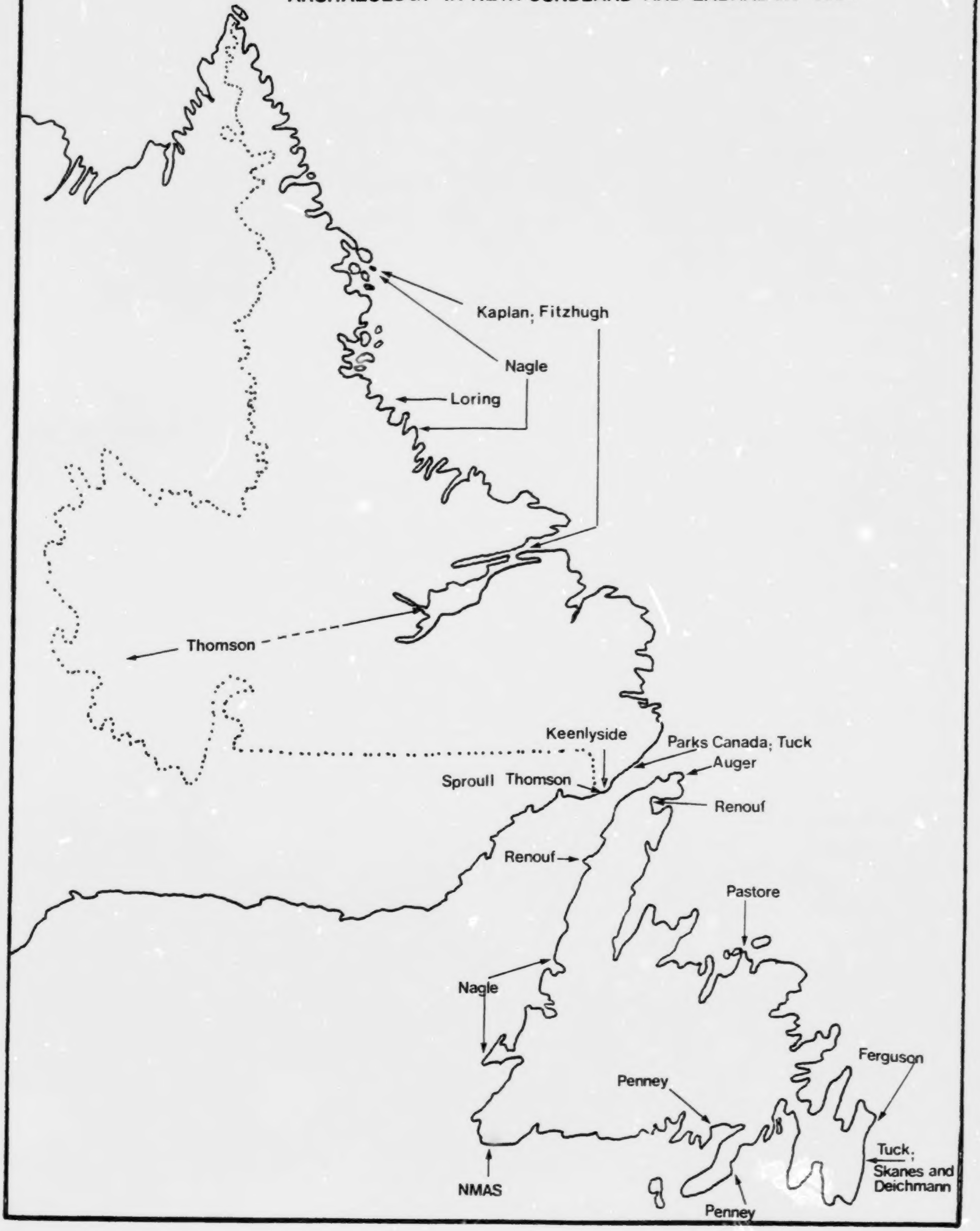
ARCHAEOLOGY IN NEWFOUNDLAND AND LABRADOR 1984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Skanes and Deichmann
NMAS
Penney

CURRENT RESEARCH NEWFOUNDLAND AND LABRADOR

Compiled by
Jane Sproull Thomson
Historic Resources Division
Department of Culture, Recreation & Youth

Archaeological activity picked up in 1984, with nineteen permits issued, thirteen for research and six involving environmental assessment. A further three projects were undertaken by Parks Canada, not under provincial permit, and are reported on in this volume.

On the island, activity extended around most of the coastline. At Isle aux Morts, two brief reconnaissance dives were undertaken by members of the Newfoundland Marine Archaeology Society in order to conduct a check to make sure no disturbance was occurring on the site. Everything proved to be generally intact, although there was some evidence of visitation by other divers.

At Mortier Bay on the south coast's Burin Peninsula Gerald Penney undertook an assessment survey of a proposed oil rig facility at Cow Head. Although some chipping debris was uncovered, including some possible Ramah chert, no further evidence of prehistoric activity was found within the project area. Historic remains included the foundations of two 19th century farmhouses.

At Ferryland on the Avalon Peninsula, Roy Skanes conducted an underwater survey in the fall of 1984, to determine the degree of disturbance by dredging activity on a historic midden containing fishbone, wood chips and ceramic and glass artifacts dating from possibly as early as the 16th century through to the present. An intact section of the original harbour bottom was located by Skanes and plans are underway for excavation. A survey of the associated land site conducted by James Tuck yielded evidence of an early seventeenth century occupation as well as a possible forge, believed to have been built during the period of original settlement at the Avalon colony. Further work is planned during the 1985 season.

A Parks Canada research team directed by Rob Ferguson carried out an archaeological resources inventory for evidence of the British military occupation from 1780 to 1870 at Signal Hill National Historic Park, in St. John's. Areas tested in 1984 include: gun batteries of the 1790s on Carronade and Gibbet Hills; a soldiers' barracks, 1800; a workshop complex of the Royal Military Artificers, ca. 1807; officers' and soldiers' barracks and outbuildings of the 1830s on the edge of the summit, including a barracks converted to a fever hospital in 1870 and later used by Guglielmo Marconi as a base for receiving the first transatlantic wireless message in 1901; and a large stone barracks for the Royal Newfoundland Company, built in 1842 and later used as a quarantine hospital until its destruction by fire in 1892. American gun positions from World War II were identified throughout the park. The survey revealed that structural remains of many of the British buildings on the site have been well preserved. Undisturbed cultural deposits relate primarily to the domestic side of 19th century military life, but also include military items and specialized workshop debris. The success of the survey has led to recommendations for future excavations to assist site development.

At Boyd's Cove, Notre Dame Bay, Ralph Pastore's continuing project succeeded in eliciting further information on Beothuk house construction. Past seasons at this site have given us solid evidence for a prehistoric Beothuk culture and established the link between the latter and Penney's Little Passage complex, described in Archaeology in Newfoundland and Labrador 1980. Material and faunal evidence was uncovered during 1984 which should help to fill a significant gap in the late prehistoric-early historic period knowledge of the Beothuk.

Nearby, at Rattling Brook, Norris Arm, Gerald Penney conducted a survey along a proposed access road right-of-way to a communications tower. A previously known Beothuk site near the road will not be disturbed by the construction, and no further significant material was discovered.

At Port au Choix National Historic Park, Priscilla Renouf undertook research on behalf of Parks Canada to assess the large Dorset Eskimo site of Phillip's Garden, previously excavated by Elmer Harp, Jr., for potential for future excavations. Secondary aims of the season's fieldwork were to survey the Park area for historic and prehistoric archaeological sites to provide the basis for a park development plan, and to search for caves within the park which may have been suitable for Dorset burials. The fieldwork proved highly successful, indicating significant potential for further research at the Phillip's Garden site. Besides the well-known Middle Dorset component the site also contains material from the earlier Groswater Palaeo-Eskimo period. The regional survey, which was not confined to the park boundaries, was unsuccessful in locating any evidence of Maritime Archaic habitation areas to correspond with a large M.A. cemetery excavated by James Tuck in 1968. However, the survey did locate a number of additional small Palaeo-Eskimo localities and several historic French and English sites. Eight caves of various sizes were found, none of which yielded any surface evidence of human activity, although one known locally as Crow Head Cave is the location of a find made by a local resident of human bone along with incised ivory and bone artifacts. The summer's work brought to thirty the total number of known sites on this attractive and rich peninsula. On the opposite side of the Great Northern Peninsula, at Main Brook, Renouf supervised an assessment survey of a proposed 27 km road to St. Anthony. No sites were discovered.

Ten projects were conducted in Labrador in 1984. In the Strait of Belle Isle, Reginald Auger tested two possible early Inuit houses at Degrat Island. The results of these excavations illustrate the difficulties in attempting to distinguish Inuit habitations of this period and in this area from the early European shelters with their use of similar construction techniques and materials. Obviously, further investigations will be required before the intriguing problems of Inuit contact, seasonality, and settlement and subsistence patterns in this region are elucidated.

At Forteau, on the Strait of Belle Isle, Jane Sproull Thomson investigated a reported "burial" uncovered during excavation of a new water reservoir above the town. The find proved to be the extremely well preserved remains of a walrus. Found at an elevation of 85 m a.s.l., the skeleton is expected to be dated at approximately 10 - 12,000 years B.P. It is currently being examined by Richard Harington of the National Museum of Natural Sciences, and a series of dates are being run on samples of the bone as well as on wood and shell found in association with the skeleton.

A few miles north of Forteau, David Keenleyside of the National Museum of Man conducted a survey to assess the impact of a proposed federal project including an access road between L'Anse au Loup and Schooner Cove and the installation of a wharf facility at the cove. With the field assistance of Pat Allen of New Brunswick's Historical and Cultural Resources, Keenlyside identified and tested five prehistoric and three historic sites including Dorset Eskimo, Maritime Archaic, Basque and other European components, as well as remains of a 19th/early 20th century American whaling station. The entire area was subsequently delineated as a significant cultural resource, and the road and wharf facility was relocated.

Further northeast along the coast, at Red Bay, Robert Grenier conducted his final season of excavation on the wreck of a Basque galleon for Parks Canada. Disassembly of what is thought to be the San Jaun was completed, excavation below the hull and peripheral to the wreck was continued, as was the harbour survey, which included the total excavation of the suspected pinaza found in 1983. The new shipwreck discovered last year was surveyed more intensively this year, confirming that the construction details were similar to those on the first wreck. The stern area proved rich in artifacts, including the fragmented remains of an astrolabe. Further harbour survey work revealed yet another large shipwreck. Although only briefly investigated, this too appears to date to the sixteenth century and is of approximately the same size as the other two large wrecks.

On the land site at Red Bay, James Tuck continued excavation of the important whalers' cemetery discovered towards the end of the 1983 season. This summer's work yielded some well-preserved textile remains including a pair of pantaloons and an upper garment, possibly a shirt. Excavations at other site areas continued to reveal information on the tryworks discovered in 1982. Interestingly, information from these areas indicates that explosions may not have been uncommon accidents during the rendering process in 16th century Red Bay. Finally, further evidence of possible Inuit occupations of the area was discovered on nearby Twin Island, in addition to an anomalous pottery sherd which Tuck tentatively identifies as of Iroquoian type.

Christopher Nagle conducted geological surveys in two areas of the province last summer, in a continuation of archaeological research aimed at discovering bedrock sources of the different types of stone used prehistorically in Newfoundland and Labrador. At the beginning of the season, several locations where chert beds had been reported in Ordovician sedimentary rocks between the Port au Port Peninsula and Cow Head were visited. Six outcrops were located and sampled. Preliminary results indicate that the visual range of chert types from western Newfoundland is quite substantial, although material range from any single outcrop tends to be restricted to one or two varieties. The remainder of the season was spent in a reconnaissance for deposits of nephritic jade along the central Labrador coast. Although only a single jade source is known in eastern Canada (at Noddy Bay in northern Newfoundland), significant amounts of the material have been recovered from Dorset archaeological sites throughout the province, suggesting that other occurrences are likely to exist. While no jade proper was found in areas examined this year, geologic conditions at least favourable for its formation were encountered at two localities. In addition, during the course of the work, several new soapstone outcrops were located, including one which provides the first solid evidence of prehistoric quarrying for stone lamps in Labrador.

Callum Thomson completed three environmental impact assessment-related projects in the province during 1984. Known sites of historic significance and areas of potential significance, within six regions of the island of Newfoundland were outlined as part of the Mobil Oil Hibernia Land Use and Resource Use Study being prepared by CBCL Limited of St. John's. An assessment of the historic resources potential of a recreation trail being built from North West river to the Sebaskachu River in western Lake Melville indicated that while the trail itself would not result in any adverse impact, some protection of the town of North West River's archaeological remains should be considered. The third project involved a survey of an 11 km section of the proposed Trans-Labrador Highway east of the Ashuanipi River. No significant impact was predicted following an assessment of the region's resources.

Susan Kaplan spent the past season investigating Labrador's multi-tiered rectangular stone structures which were first discussed by the Gathorne-Hardy cousins (1922, 1963), who investigated a group of these structures on Sculpin

Island, in the Nain area. The Gathorne-Hardys proposed that the stone structures were either built by the Norse or by Norse-influenced Inuit, while Matthews argued that they were constructed by Inuit influenced by the 16th century European visitors.

A number of sites between Hamilton Inlet and Okak containing multi-tiered and single tiered rectangular stone structures were located and mapped in 1984, and individual structures were tested or excavated. Excavated ground and drilled slate and nephrite endblades and tool fragments indicated that the rectangular structures were built and occupied by prehistoric Neoeskimo groups. Sod house villages dating to the precontact and early contact Neoeskimo period were also visited by Kaplan. Two sod house forms probably in use between the 15th and 17th centuries were identified and charcoal samples from the structures are being dated.

William Fitzhugh continued his surveys along the Labrador coast in 1984. Three high Maritime Archaic pithouse structures of the single-room type were excavated, two of them containing diagnostic material. One, at Karl Oom Island near Nain produced an early M.A. type projectile point of Ramah chert in a charcoal deposit dating 6000 B.P. Three small rectangular two-segmented structures were also excavated at high sites, and it was possible to cross-link these with one of the pithouse structures. In addition to this early M.A. material, Fitzhugh located several new middle-period Maritime Archaic sites in the Nain region and at Cape Harrigan. One of these, at House Harbour contains a number of (probably burial) mounds that should augment our information on the Naksak complex, for which the pithouse and small rectangular structures form the settlement base. New data on Paleo-Eskimo settlement patterns for the Dorset, Groswater Dorset and Pre-Dorset periods were also compiled by Fitzhugh during the 1984 season.

Stephen Loring returned to the central Labrador near interior in 1984 to conduct surveys and excavations in an area understandably avoided by most archaeologists, for the purpose of finding and evaluating evidence on the late prehistoric, contact and historic period Indians of this area. Principal aims of the project included establishing the relationship between the Innut (Naskapi-Montagnais) culture and the preceeding pre- and proto-historical Indian occupations, examining the overwhelmingly caribou-oriented economy of these groups, and seeking explanations for the boundaries between the Inuit and Indian occupants of the region. Loring's hard-won results have contributed significantly to our knowledge of the prehistory and history of this little-known region, yielding evidence that the inhabitants were not as isolated as previously assumed; this evidence includes the first known prehistoric native ceramics from an undisturbed context in Labrador.

CONSERVATION AT THE NEWFOUNDLAND MUSEUM

Rosemary Smart
Conservator
Newfoundland Museum

One of the stipulations that must be met before being awarded an archaeological research permit in the Province of Newfoundland and Labrador is that the archaeologist demonstrate that he has access to the financial and physical resources to enable him to return excavated material in a conserved, that is, stable state. When I saw this I was very pleased to see conservation concerns being given such precedence (because after all I think it's the main concern) and it has had the positive effect I think of raising the conservation consciousness in the archaeological community and promoting a responsible attitude towards these collections. After all, as a general rule, most material will be much more stable in the ground or on the ocean floor than in cardboard boxes awaiting treatment. Therefore, if you want to dig it up, you have to consider and take some responsibility for taking care of it.

However, to be fair, we recognize that acquiring conservation services is no easy matter. Finding money is probably the smaller problem compared to finding the facilities and the services of a trained conservator for the often extended periods required to conserve material from just one field season. There are few trained conservators in the Atlantic region as a whole, much less in Newfoundland and Labrador. Furthermore, as far as I know, there is only one private exclusively archaeological conservator presently practising in Canada (Bob Senior, formly of CCI) due to the expense of setting up and operating the facilities required, especially for water-logged material. So conservation could understandably be seen by the archaeologist as something of a bottleneck. However, at this point it seems unavoidable because alternative facilities and services simply do not exist.

This is only the second year in which the position of conservator has existed at the Newfoundland Museum; which is not to say the conservation concerns were not addressed previously but rather that an official commitment to the conservation component of the Museum team is quite recent. I might add that this is true to varying degrees across the country. Conservation as a museum discipline is only about fifteen years old in Canada; the expense involved, and the shortage of trained people has made the establishment of conservation facilities an uphill battle. We're at the point now where there are many trained and experienced conservators in central Canada where the majority of large museums and museum-like facilities exist (most notably the Royal Ontario Museum, National Museums, Public Archives, and Parks Canada). Establishing conservation in the other regions has been identified by the National Museums as the current priority. To this end the conservation Assistance branch of the Museum Assistance Programmes is supporting regional museums in setting up facilities. The pattern is first to fund the conservator position, and then to aid that person in setting up laboratory and storage facilities.

There are two main dimensions to a conservator's responsibilities to the artifacts: treating them, and maintaining them in as stable a condition as possible. Necessarily, the two will overlap to some extent (i.e. some objects cannot be maintained to any degree in a stable state until they are treated), but generally, of the two, treatment, especially restoration, is much more of a luxury, being more time and material intensive, and focusing more resources on fewer artifacts. Maintaining the collection as a whole is the initial priorty in a situation like ours. As such, in planning our conservation facilities at the Newfoundland Museum, upgrading of storage has been identified as our first concern. Being entrusted with housing all of Newfoundland and Labrador's material culture, the Museum is committed to providing the best environment for it that we can. This will probably take a couple of years, whereupon our attention will be diverted to establishing a comprehensive laboratory facility and treatment programme. Until then, I'm operating out of a small converted photo lab; so both time and space constraints will limit the amount and types of treatments undertaken in the near future. Furthermore, when the lab is built, it will have to deal with all areas of collection conservation - textiles, ethnographic, archival, historic components, and archaeological material, as well as preparation for loans and exhibits. Granted, much of our collection, once properly stored, will be relatively stable chemically, in that deterioration will have slowed down considerably, so that the needs of the collections will be somewhat less urgent. Recently excavated archaeological material, on the other hand, is in a much more dynamic state physically and chemically, in that by removing it from its burial context the archaeologist has disturbed such equalibrium as existed between it and its environment. For this reason, coupled with the fact Newfoundland and Labrador are so relatively rich in archaeological potential and interest, it seems that emphasis on archaeological material in planning our long term conservation activities, is strongly indicated.

The Museum can never realistically hope to cope with all the material excavated in the province - our facility will probably never be large enough in the foreseeable future, nor do we anticipate staffing more than one conservation position. However, tentatively we're thinking that we might be able to establish a setup for archaeological conservation as one component of the lab, which could be used by interns and contract conservators as well as ourselves. This way archaeological conservation could be ongoing without committing the Museum resources fulltime. In other words, "you provide the conservator and materials, we provide facilities". Even at that, however we probably will not be able to satisfy all the demands on Museum resources that could conceivably be made in the future. No doubt the burden of responsibility for providing conservation services will continue to be shared by the archaeologist and museum, but with the museum assuming a larger share as time goes on.

THE NEWFOUNDLAND AND LABRADOR ASSOCIATION OF AMATEUR ARCHAEOLOGISTS REPORT OF THE YEAR'S ACTIVITIES, 1984

Julia Mathieson
President

1984 has been a busy one for NLA3. In our second year we have maintained a high level of interest in archaeology and have continued to grow and expand. Our activities included seven executive meetings, twelve general meetings, two seminars, one field trip, a television interview, involvement in community issues and the planning of a "site watch" program.

General meetings included lectures by Ralph Pastore, Gerald Penney, Michael Barkham, Rob Ferguson, Birgitta Wallace and Marc Deichmam, and five evenings of movies. The lectures covered the following topics: Boyd's Cove; Burnt Island; old Basque sites; Grassy Island, Nova Scotia; L'Anse aux Meadows; Signal Hill and Ferryland. The movie series were "The Wreck and Raising of the Mary Rose" (three segments), and another three on Egyptian antiquities.

In March eight members attended a training seminar entitled "Appropriate Collection and Conservation of Archaeological Materials from Underwater Sites." This was a most informative seminar and NLA^3 was pleased to send such a large contingent. The other seminar and meeting attended by four of our members was the Annual General Meeting of the Museum Association of Newfoundland and Labrador, "Introduction to Basis Museum Functions." Mark Allston spoke about Trinity Museum where he had worked all summer, and Julia Mathieson introduced the "site watch" program that NLA^3 is initiating. Throughout the year members attended other lectures and one-day seminars on behalf of NLA^3 and Mark and Julia were interviewed on CBC television by Doug Brophy. Five Newsletters were issued and an article appeared in Archaeology in Newfoundland and Labrador 1983. Fact sheets about the Micmac and the Beothuk were distributed at meetings and others are being prepared.

One of the aims of NLA^3 is to set up a "site watch" program in the province. To begin, a letter was written to the Provincial Archaeologist who forwarded the information to the Minister of Culture, Recreation and Youth. Approval of the project has been granted and it is hoped that the program will go into effect in the spring of 1985.

During the summer, Parks Canada conducted several test excavations on Signal Hill under the direction of archaeologist Rob Ferguson. It was a great opportunity to see archaeologists at work and Rob was always willing to explain what he was doing. Earlier in the year NLA^3 had attended the Open House held by Parks Canada on the future management of Signal Hill. Following the Open House NLA^3 submitted a brief to Parks Canada.

On a cold, windy day in October, six members drove to Ferryland where Mark Diechmann conducted a walking tour of the sites where James Tuck and his crew from Memorial University were excavating what is thought to be a dwelling house from the time of Lord Baltimore. Mark delivered a follow-up lecture in November.

All in all it has been an excellent year for NLA^3 and we are continually grateful to the professional archaeologists for their support and encouragement. One of our members is now happily working voluntarily on the archaeology collections at the Newfoundland Museum.

We look forward to 1985 and more archaeology.

EARLY NEOESKIMO SITES
IN CENTRAL LABRADOR

Susan A. Kaplan
The Peary-MacMillan Arctic Museum
Brunswick, Maine

In 1920 Geoffrey and Robert Gathorne-Hardy, cousins who were adventurers, artists, and writers, journeyed to Labrador. While visiting Nain they were taken to see ruins on Sculpin Island, also known as Konaiotok. The ruins consisted of mysterious angular structures that had standing walls built with multiple courses of stones.

The Gathorne-Hardys, along with local residents, missionaries, and other travelers, noted that the structures on Sculpin Island were unlike other ruins in Labrador. Amidst speculation as to who might have built and occupied the curious dwellings, the Gathorne-Hardys decided they would undertake a systematic investigation of the ruins.

The cousins identified a number of discrete sites on Sculpin Island, and mapped and excavated a number of rectangular and circular structures at these sites. In addition to dwellings, the Gathorne-Hardys identified a V-shaped stone arrangement which they interpreted to be a support for a keeled boat, stone walls which they called fortifications, and a large stone slab they called a table. The two adventurers published separate articles proposing different theories concerning the identity of the original builders and occupants of the Sculpin Island sites.

Geoffrey and Robert Gathorne-Hardy were familiar with Norse architecture and both men saw a resemblance between the ruins left by the Norse and those on Sculpin Island. Geoffrey Gathorne-Hardy concluded that the Sculpin Island stone structures had been built by Greenlandic Inuit who had migrated to Labrador. He surmised that while residing in Greenland these Inuit had been influenced by Norse architecture (1922:165). Robert Gathorne-Hardy (1963) proposed that the structures on Sculpin Island had been erected by Norse colonists, probably the "lost" group from Greenland. The angular dwelling forms as well as the support for a keeled boat were cited as evidence in this argument.

Tanner (1941) and Wenner (1947) also visited Sculpin Island and commented on the unusual sites there, but not until 1971 did the structures again come under close scientific scrutiny. That summer, Barry Matthews tested a number of stone structures at Sculpin Island 2 (Matthews 1975). A charcoal sample recovered from the "porch" of one of the rectangular stone structures was dated 105 +/- 75 B.P. (Japan Isotopes Company-1559). Matthews questioned the accuracy of the date, suggesting that rootlets and organic acids had contaminated the sample.

Like the Gathorne-Hardys, Matthews was puzzled by the angular forms of some of the Sculpin Island structures, and he did not believe that Inuit would have built rectangular-shaped shelters without having been influenced by Europeans. Unlike the Gathorne-Hardys, Matthews did not think that there was a Norse connection with the site. Matthews compared the Sculpin Island structures with stone features found in Deception Bay and Vallon-des-Ruines, located at the southwestern end of Hudson Strait. Animal bone from Deception Bay had been dated 620 +/- 80 B.P. (Gakushiun U. Japan-1036), while charcoal from that site had been dated 330 +/- B.P. (Yale U.-1717). Matthews argued that the Sculpin Island and related Hudson Strait sites were built in the 17th century by Inuit influenced by Europeans who visited the eastern Arctic long after the Norse period.

In 1975 a Smithsonian Institution archaeology team, headed by William Fitzhugh, briefly surveyed the western end of Sculpin Island. Stone structures described by the Gathorne-Hardys were relocated, a sod house/site was found, and the archaeologists noted that the slab once referred to as a table was now propped up so as to resemble a chair.

In 1978 members of the Torngat Archaeology Project surveyed Sculpin Island. They photographed and mapped some of the structures on the island and located walls described by the Gathorne-Hardys. Despite this activity, archaeologists were no closer to dating the Sculpin Island sites or knowing what people were responsible for building the rectangular stone structures and associated features.

THE TORNGAT ARCHAEOLOGY PROJECT

One of the objectives of the 1977-78 Archaeology Project was the investigation of the Neoeskimo occupation of Labrador. In an effort to understand how Neoeskimo had adapted to the complex environmental, geographical, and social conditions of the coast, research involved 1) locating Neoeskimo sites between Hamilton Inlet and the Button Islands, 2) excavating selected structures, 3) reanalyzing archaeological collections recovered before 1977, 4) examining enviromental and geographical factors that might affect life along the Labrador coast, and 5) studying ethnohistorical documents relating to Inuit and European activities in Labrador (Kaplan 1983).

The 1977 and 1978 field seasons consisted largly of surveys of the Labrador coast. Crews cross-cut various ecological zones in an effort to gather data from sites dating to different time periods and oriented toward the exploitation of a variety of natural resources. These data were used to reconstruct subsistence practices and settlement patterns.

Close to 200 Neoeskimo sites were located during the 1977 and 1978 seasons. Sites ranged from clusters of tent rings and caches to sod house villages, and they dated from the 15th to the 20th century. However, the 1977 and 1978 field seasons failed to produce any tent rings that could be attributed to the prehistoric Neoeskimo period. Initially, the absence of temporary structures dating to the this period was attributed to the pirating of these early structures by later groups who camped in the same places. This process is visible in the archaeological record throughout Labrador. Eighteenth and 19th century Inuit tent rings are built on top of Paleoeskimo pavements associated with Pre-Dorset and Dorset stone tools. However, ground slate and nephrite implements diagnostic of the prehistoric Neoeskimo period have not been found in any of the later tent rings that have been investigated.

During the surveys of the Labrador coast archaeology teams came upon sites that remained a temporal and cultural mystery even when they had been mapped and tested. One of the first sites found during the 1977 field season, White Bear Island 4, was such a site. White Bear Island 4 sits on top of a moraine between the eastern and western coves of the island, and consists of twenty rectangular and circular stone structures as well as five graves. Excavation and mapping (Figure 1) efforts produced little information concerning the cultural identity of the sites's occupants. An examination of the reports of other Labrador sites lacking dates and cultural attributions revealed that many of the sites resemble one another in that they contain single-tiered and multi-tiered rectangular and circular structures.

THE 1981 FIELD SEASON

Field work undertaken in 1981 had as one of its goals further investigation of sites containing rectangular and circular stone structures similar to those found on Sculpin Island and White Bear Island. In addition to a search for more of these sites, excavations of some of the Sculpin Island structures were planned.

In 1981 Sculpin Island East 1, referred to as the West Site by the Gathorne-Hardys, was examined (Figure 2). Seventeen stone structures were identified and mapped. These structures are built on a rocky surface and are fashioned out of thick flat stone slabs. Structures 1 and 2 (Figures 3 and 4) were mapped and excavated. The work revealed that the generally rectangular structures measure 6 m by 3 m and 8 m by 5 m respectively. Multiple courses of stone slabs form the outside walls of each structure, and walls can reach a height of 47 cm. The southern wall of structure 1 has collapsed. The absence of slabs in the southeeastern corner of the structure suggests that the entrance into what appears to be a dwelling may have been in that area. The rear and side walls of the structure are well defined. A stone feature measuring 1 m on a side, and of unknown function, was exposed in the northern section of the structure.

Structure 2 resembles Structure 1 in that the rear and side walls are well defined. An entrance appears to have been located in the northern corner of the dwelling. A low wall divides structure 2 in half. Excavations in the northern section revealed two paved alcoves. Charcoal, badly preserved seal bones, and a fragment of ground slate were recovered from the central portion of Structure 2.

A charcoal sample excavated from structure 2 was submitted for analysis and dating. The sample, 95 per cent coniferous wood and 5 per cent hardwood, was dated 1385 +/- 55 B.P. (S.I.-4829) (Laeyendecker n.d.). This date suggests that structure 2 was built during the Dorset period. However, recovery of a fragment of ground slate, the Gathorne-Hardys reports of whale bone at the site, the absence of Ramah chert which is commonly associated with Dorset sites in Labrador, and the sites's low elevation suggests a later date and a Neoeskimo affiliation (Kaplan 1983).

Investigators of Sculpin Island East 2, known by the Gathorne-Hardys as the East Site, located stone caches, a V-shaped line of stones, the stone slab placed to resemble a chair's back, and rectangular stone structures similar to those found at Sculpin Island East 1. The V-shaped line of stones may have been used as a support for a boat as noted by the cousins. However, the craft need not have been a keeled boat. It may have been an umiak, a large skin boat used by Neoeskimo groups. During the course of surveys a multi-tiered stone wall was located (Sculpin Island East 4) as were two other sites, one containing three historic period semisubterranean sod houses (Sculpin Island 1) and the other consisting of multi-tiered rectangular and oval stone structures (Sculpin Island 2) similar to those already described.

Numerous sites containing multi-tiered stone structures were located during the course of the 1981 survey of the Nain area. However, aside from the ground slate recovered from Structure 2 at Sculpin Island East 1, no artifacts were found associated with rectangular stone structures.

Following the 1981 field season Kaplan (1983) postulated that the single-tiered and multi-tiered stone structures found between Nain and Killinek were prehistoric and early contact period Neoeskimo structures. Settlement pattern studies revealed that Sculpin Island-like sites are found in every fiord or island complex that contains a prehistoric Neoeskimo sod house settlement. The sod house sites tend to be in outer island locations, or next to major leads or polynyas. The stone structure sites are in two kinds of environments, on outer islands or capes near the sina, and among inner islands adjacent to rattles and leads that remain open in the late fall and are among the first ice free areas in the early spring. Kaplan postulated that the stone structures were prehistoric Neoeskimo spring and fall encampments.

THE 1984 FIELD SEASON

Based on previous archaeological work, as well and the 1977, 1978, and 1981 field seasons, Kaplan (1983, 1985a, 1985b) presented an outline of changing subsistence and settlement patterns of the Labrador Neoeskimo population beginning approximately 600 years ago. The reconstruction of the prehistoric Neoeskimo subsistence settlement pattern was based on the assumption that the Sculpin Island-like structures dated to the earliest Neoeskimo period. In doing the reconstruction of changing subsistence practices and settlement patterns it became clear that the early contact period, the late 16th and early 17th century, was not well known. However, understanding the social, economic, and demographic development of this period was critical to any explanations of the increased social and political complexity that characterized the 18th century Neoeskimo occupation of Labrador.

The 15th through 17th century occupations of Labrador by Neoeskimo groups became the focus of the 1984 field season. Sod house settlements between Hamilton Inlet and Okak were revisited in an attempt to refine the dating of early Neoeskimo sod house forms and to identify a site or set of sites suitable for a long term excavation project that might shed light on changes in house forms. Sites containing rectangular and circular multi-tiered stone structures were also visited. Structures were mapped and then excavated in an effort to secure artifacts and organic materials that would date the structures.

Eskimo Island Sites (GaBp-01, GaBp-02, GaBp-03, GaBp-04)

Sod house sites on Eskimo Island were revisited with three objectives in mind: 1) examination of the sites in view of close to ten years of work on similar structures, in an effort to determine whether the Eskimo Island sites deserve the unique status they have; 2) survey of the island in search of Basque sites; and 3) determination of the potential for future research on the island.

Mechanical difficulties set the field season back two weeks, therefore the visit to Eskimo Island was brief. All sites were visited, large sections of the island were resurveyed, and photographs of houses and the revegetation process on excavated portions of the site were secured. Slight depressions in the area around Eskimo Island 3 suggest that a program of systematic testing of the midden areas around the sites will probably reveal additional house remains. In fact a single 50 cm square test pit placed in a depression in the forested area behind Eskimo Island 2 produced 18th century glass trade beads, fragments of corroded metal, and ceramics. The tall vegetation covering most of the houses precluded survey with a metal detector.

Black Island 5 (GcBk-18)

Twenty-one structures were located on the southwestern beach of Black Island. The structures run north-south just above the present storm beach. Boulder structures include meat caches, burials, a circular tent ring, rectangular stone structures, and a crescent-shaped structure.

The five rectangular stone structures found at the site are similar to those on Sculpin Island. Two of the structures were mapped. Structure 1 measures 8 m by 4 m, Structure 2 measures 9 m by 4 m. Both structures have walls constructed out of multiple courses of stone. The interior of Structure 1 is divided in half by a low wall.

A large boulder field south of Black Island-4 was not surveyed. In all likelihood structures similar to those found on the southwest beach will be found in that area as well.

Black Island 5 should be investigated when Eskimo Island is reexamined. If the structures on Black Island date to the precontact or early contact Neoeskimo period, the site may be the remains of a spring sina hunting camp established by the Eskimo Island 3 population.

Anniowaktook (GiCa-02)

Anniowaktook is a sod house settlement consisting of four large semisubterranean sod houses originally investigated by Junius Bird (1945). The four houses are located in a cove on the southwestern side of Anniowaktook Island in the Hopedale area. The dwellings are perched on a narrow beach pass, and their tall green midden grasses are visible from the water.

Four small test pits were placed in Houses 1, 3, and 4 in order to determine how productive the houses were in comparison to the Eskimo Island structures, and to determine the nature of preservation at the site. Few artifacts were recovered from the test pits, and the traditional and historic pieces were not diagnostic of any particular period. The test pits revealed that the site has a shallow cultural deposit and bone preservation is poor.

Napatalik North 3 Locus 2 (GjCc-06)

A single rectangular structure was located on the beach three metres above sea level south of the Napatalik North 3 Dorset site. The structure measures 5 m by 8 m and is built on beach gravel and bedrock. Single rows of stones define the structure which has a slightly waisted appearance. The structure, devoid of artifacts, resembles late 19th century structures located on Palungitak Island (Kaplan 1983: 473), in the Nain region.

Multa Island Sites (GkCb-01, GkCb-02, GkCb-03)

Tent rings and sod houses were located on Multa Island. Three 19th century sod houses were found on the western end of the little island. Each house was built against a bedrock ledge which served as a wall and a wind break. One of the structures shows signs of having been disturbed recently.

The small rectangular structures resemble late 19th and early 20th century houses associated with Moravian Mission stations and Hudson's Bay Company posts. The houses are not semisubterranean. Rather, the square and rectangular structures are built on the ground surface and are constructed out of sods and wood. Windscreens rather than entrance passages shield the entryways into the dwellings. Either settlers or Inuit could have built and lived in the houses. Today the island is used as a fish camp by Nain residents.

House Harbour 3 (HbCg-04)

Three houses and a standing tilt were located on the easternmost pass of Iglosiatik Island. Two of the houses are above-ground sod structures, while the third is the remains of a semisubterranean structure, measuring 6 m by 4 m. The site was not tested but it appears to date to the early and mid-20th century.

Iglosiatik Island 1 (HbCh-01)

In 1981 the western beach pass of Iglosiatik Island was surveyed and a large Neoeskimo sod house settlement was located. That season, fifteen semisubterranean sod houses were identified. THe houses are built into a sandy hillside overlooking a fossil cove. Eleven of the houses are small D-shaped structures with long entrance passages. Two of the houses are clover leaf-shaped (c.f. Schledermann 1971). Each has two rooms that share an entrance passage. The centre section of the site is dominated by three large houses, one square and two rectangular in shape.

In 1981 test pits revealed that many of the houses contained nephrite and ground slate, indicating that Iglosiatik Island 1 was once a prehistoric Neoeskimo settlement. Charcoal recovered from House 1 was dated 280 +/- 60 B.P.(S.I.-4827) (A.D. 1670), and suggested an early occupation date as well. Iglosiatik Island 1 is the southernmost prehistoric Neoeskimo settlement in Labrador. Its presence in the southern Nain region raises interesting questions concerning the dynamics of Point Revenge Indians and Neoeskimo interaction.

Iglosiatik Island 1 was revisited in order to try to establish the length of occupation at the site, to try ro recover information that might help date the various house forms represented at the site, and to determine whether a major excavation of some of the houses would be profitable. During the course of investigation a sixteenth semisubterranean sod house was located, and six houses were identified for further testing. All houses were surveyed with a metal detector in an attempt to discover whether the site has an historic component.

House 1: This 17th century sod house produced a drilled and ground red slate fragment in 1981. In 1984 a test pit in the northeast section of the small D-shaped structure uncovered a single fragment of slate.

House 10: This large structure is in the central section of the site. While its size suggests an 18th century date, its square shape is not classic for that period. The house was tested in two locations, inside the house and in the entrance passage. Both test pits revealed that the house had been constructed using timbers and that it had a floor made up of tightly fitted flat paving stones.

The interior test pit produced flakes of slate and one flake of Ramah chert in the roofing sods. A rusted nail was recovered 5 cm above the paved floor. The entrance passage test pit produced a nail and a corroded metal fragment in the upper 20 cm of deposit. The skins of mussel shells and charcoal were recovered 23 cm below the surface sods.

Charcoal recovered from House 10 has been dated 380 +/_ 50 B.P. (S.I.-6706) (A.D. 1570). While this date agrees nicely with the date associated with House 1, whether the charcoal dates the present structure is not clear. The slate and Ramah chert recovered from roof sods suggest that the most recent house to stand in that part of the site was built using sods laden with artifacts from earlier occupations. Whether the metal recovered is associated with the house or might derive from activities in House 11 is not clear.

House 11: This large rectangular semisubterrarean house resembles 18th century sod houses found throughout Labrador that are referred to as "communal houses". The house was surveyed with the aid of a metal detector, and a propeller shaft was located in the upper sods of the wall shared by houses 10 and 11.

A test pit in the entrance passage of House 11 exposed a carefully paved floor. Charcoal, a seal bulla, and slate fragments were recovered. A test pit in the northwest corner of the house interior, at the sleeping platform-floor juncture, yielded feathers, seal bones, and a badly corroded metal object. The test pit was terminated once the paved floor and stone-edged sleeping platform front had been exposed.

A final test pit was placed in the northeast corner of the house so that it cut into the sleeping platform and extended into the interior of the house. The excavation revealed that the platform had been built up with sands held in place by a retaining wall of flat slabs. The platform was covered with wood. Faunal remains recovered from the interior of the house included seal jaws, teeth, and bones.

House 12: House 12 has two rooms that share an entrance passage. A test pit in the interior of the house produced mica, slate, and a fragment of schist. A slate ulu or a single-edged knife blade fragment was recovered as well.

House 13: House 13 is a D-shaped structure built apart from the other sod houses at Iglosiatik Island 1. A 1.50 m by 0.50 m test pit was placed in the entrance passage of the house. The test pit was terminated when a tightly paved floor was exposed. Slate and a sherd of soapstone with blubber encrustations were recovered.

A charcoal sample from House 13 yielded a date of 760 +/- 65 B.P. (S.I.-6708) (A.D.1190). This date is the earliest associated with Neoeskimo remains in Labrador and raises the possibility that a Neoeskimo group may have settled in Labrador in the 12th century. However, flakes of Ramah chert and schist found at Iglosiatik Island-1 and the discovery of a Dorset site on the western side of Iglosiatik Island raises the possibility that the charcoal recovered from House 13 may relate to and date an earlier Dorset occupation of the island.

House 15: House 15 is the second clover leaf-shaped structure at the site. A test pit was placed in the entrance passage in an effort to recover material that would shed light on the chronological relationship of clover leaf and D-shaped structures. THe test pit revealed a 25 cm deposit containing charcoal, slate, nephrite, and poorly preserved seal bones.

A test pit at the juncture of the sleeping platform edge and floor also yielded flakes of nephrite and slate, as well as a schist preform which would fit well in a Middle Dorset assemblage. A third test pit in the midden east of the entrance passage of House 15 exposed a 15 cm deposit of sandy peat containing a fragment of walrus skull.

A poorly preserved metal artifact, possibly a knife blade, was recovered from the test pit at the edge of the sleeping platform when the pit was enlarged. The metal object was in a deposit that also contained fragments of slate. Charcoal recovered from the house was dated 620 +/- 50 B.P. (S.I.-6709) (A.D. 1330). This date suggests an early Neoeskimo occupation of Iglosiatik Island. In view of the date and the total assemblage, the metal recovered from House 25 should undergo further analysis and the structure should be excavated to determine whether the house represents a single early occupation or was reused.

House 16: During the 1984 season a small square semisubterranean sod house was located south of House 15, between the spruce trees and a small stream. The dwelling was not tested.

The test pits placed in Iglasiatik Island 1 houses indicate that faunal preservation is not good. However, the houses have been carefully constructed and in some cases appear to be largely undisturbed. Future work at the site can profitably focus on changes in house forms. The early dates derived from charcoal recovered from three of the structures and assemblages containing both ground stone and metal tools also call for further investigation of the site.

Skull Island 6 (HcCg-06)

The point on the western shore of Skull Island was surveyed in 1981 and an unusual site containing a huge oval structure (Structure 1) and other oddly shaped high walled structures was examined (Kaplan 1983: 466). The site was one of the major objectives of the 1984 field season.

During two days of investigation the entire site was mapped and close to thirty structures, many multi-tiered rectangular forms, were plotted on a master map. In addition, a rectangular stone structure (Structure 27) was completely mapped and excavated, Structure 1 was mapped and extensively tested, and Structure 22, a tent ring was tested. What follows is an account of the structures that were closely examined, tested, or excavated.

Structure 1: This oval structure measures 8 m by 6 m and has an entrance passage that opens west, facing the water (Figure 5). The southeastern end of the structure contains the tallest wall, standing 1.5 m high, constructed out of multiple courses of small stones, buttressed on the outside by an angled pile of stones.

A series of large boulders line the interior of the southern and eastern sections of the structure. They appear to be part of a bench or a series of seats. A section of the western end of the structure was cleared of surface vegetation, revealing a concentration of fine grained blue and green slate flakes and some nephrite flakes. Excavation on the northern end of the structure produced two broken slate endblades with drilled holes, and two whetstones, one of them broken. Slate and nephrite flakes were found here as well. The slate debitage in the western section of the structure and the whetstone and broken weapons in the northern section indicate that people manufactured and repaired implements here. The size of the structure and the beach or seats lining its wall suggest that Structure 1 may have served as a men's house. If this was its function, this is the first such structure reported in the Labrador archaeological record.

Structure 2: The walls of this circular cache are fashioned using four courses of stones. A layer of tiny pebbles lines the bottom interior of the feature. A small semicircle of stones abuts the outer wall of the cache. The feature was found open and empty.

Structure 7: Structure 7 was built against a raised bedrock ledge that serves as its north wall. The entrance into the structure is not evident. The 5 m by 4 m structure contains two alcoves.

Structure 10: This unique structure consists of a large circle enclosing a small circle. The outer circle has a 5 m diameter and is built of large boulders placed on the surface of the boulder beach. The inner circle has been dug into the beach and has stone slab retaining walls. The surface between the outer and inner circles has been cleared of large boulders and paved with small cobblestones. A possible entrance into the structure consists of a ramp of cobblestones that leads to the top of one of the outer walls.

Structure 17: This small tent ring has a 3 m diameter and is defined by small tightly placed stones. The southern interior platform is covered with tiny pebbles. No other structure at Skull Island 6 resembles Structure 17.

Structure 22: This tent ring has a 4 m diameter and is in the eastern part of the site, slightly removed from the main building area. Four other tent rings of similar construction are found at this end of the site. Slate and Ramah chert flakes were recovered from a small test pit placed in the tent ring's interior. The relationship of this and the other four tent rings to the rectangular stone structure and caches is not clear.

Structure 27: Structure 27 is located at the eastern end of Skull Island 6. This rectangular stone structure (Figure 6) was excavated because it appeared to be undisturbed and had a soil deposit in its interior. Many of the other rectangular boulder structures at the site, having been built in a boulder field, contain no soil. Therefore the chance of recovering artifacts and datable materials from these is slim.

Excavation of Structure 27 consisted of stripping off the little vegetation that covered the interior of the structure and clearing away a few centimeters of soil. When the work was concluded a rectangular stone structure had been exposed. It has an entry way in the form of a break in wall rocks, in its southeast end. A low wall divides the structure in half. An alcove or kitchen area, defined by flat paving stones, was uncovered in the northwest corner. A ground slate endblade with two drilled holes, characteristic of prehistoric Neoeskimo assemblages, was recovered from the edge of the pavement.

The excavation revealed a paved area, semicircular in shape, abutting the east wall of Structure 27. This paved area may have served as a sleeping platform and brings to mind Matthews' description of a "porch" he excavated when investigating one of the Sculpin Island structures.

In addition to the ground slate endblades, slate and nephrite flakes, seal bones, charcoal, white limestone possibly used as a whetstone, and Ramah chert and fine grained chert flakes were recovered from Structure 27. The Ramah chert and fine grained chert raise the possibility that a Paleoeskimo site may be located in the vicinity.

Charcoal recovered from Structure 27 has not yet been analyzed and dated. However, the ground slate endblade, diagnostic of a prehistoric Neoeskimo period, adds strength to Kaplan's suggestion that rectangular stone structures similar to Structure 27 date to the prehistoric Neoeskimo period.

Skull Island 6 is an important site that needs further investigation. Excavation of additional rectangular structures should help archaeologists identify the time frame in which the structures were used and possibly the season of occupation of the site. The relationship of the rectangular stone structures to the tent rings at Skull Island 6 and to a group of semisubterranean sod houses on the island may be established as well. Perhaps of single greatest interest will be a complete investigation of Structure 1.

Oakes Bay 1 (HeCq-08)

Oakes Bay 1, known in the 18th century as Pamegnertokh, was revisited in efforts to determine if any of the houses at the site were built in the prehistoric period. Four of the six houses were tested.

The deposit in House 6 was shallow and unproductive, while quantities of well preserved wooden house beams were uncovered in House 3. Test pits in Houses 4 and 5 were terminated when permafrost was encountered. The possibility of recovering wood and bone materials from these houses appears excellent.

Further work at Oakes Bay 1 was not undertaken as crews were concerned that the permafrost deposit not be disturbed. These large houses, probably all dating to the 18th century, and the surrounding middens should contain well preserved bone and wood, indicating that the site will yield important data on the 18th century Neoeskimo subsistence economy.

Gang Island 1 (HeCh-13)

Five tent rings and eight rectangular structures were found along the east end of the western island in the Gang Island complex. Two of the rectangular stone structures were mapped. They measure 7 m by 5 m and 7 m by 6 m. Each contains a cache and alcoves.

A number of the stone structures at this site contain fragments of limestone which have been imported into the area. Limestone is present in other Neoeskimo sites in the Nain area and may have been used for whetstones. A fragment of Southampton Island chert was recovered in the vicinity of Structures 1,2, and 3.

Orton Island 2 (HfCq-01)

The southeast end of this outer island in the Nain area was surveyed in hopes of finding a sina hunting site. A single tent ring was located. It contains china, metal, and glass manufactured in the 20th century. A pinnacle, a stone slab supported upright by a cluster of smaller stones placed at its base, was found on a bedrock ledge overlooking Eastern Harbour. Whether the pinnicle relates to the tent ring or to a possible Maritime Archaic burial feature found nearby is not known.

Snyder Bay Island 1 (HgCk-01)

Snyder Bay Island was surveyed and a site consisting of six tent rings was located on the north shore of the island. The tent rings are on a cobble beach across from Snyder Peninsula. The rest of the island is devoid of sites.

Iglusuaktalialuk Island 8 (HhCj-09)

Seven tent rings and two graves were found on a raised beach north of Steven Cox's Iglusuaktalialuk Island 4 Pre-Dorset site. The tent rings have well defined stone perimeters, cleared interiors, and their sleeping platforms are defined by rows of small stones.

Nuasornak 1 (HhCk-05)

Nuasornak 1 is located on the north side of Nuasornak Island. The site is visible as a heavily vegetated area in the central section of the shoreline. In the 18th century this was one of the larger settlements in Okak.

Six houses were mapped. A number of them are of considerable size. A test pit was placed in House 2 and a thin cultural deposit was encountered. A metal fragment and a concentration of soapstone flakes were recovered. These flakes and a soapstone paving stone suggests that a steatite source may be located near the site.

Nutak 1 (HiCk-01)

The site of the Nutak trading post was examined. Remains of stone-edged wooden floors are visible and sections of brick chimneys litter the site. The shore in front of Nutak is covered with tent rings. A single grave sits on the ridge above the site.

Moores Island 2 (HjCk-11)

Tent rings, stone caches, and hearth screens were located along the shore of Moores Island. Many of the tent rings are large, measuring 11 m by 9 m. Some of the tent rings have three hearth areas, suggesting that they were occupied by multi-family units. Round headed and round shafted nails were observed in the hearths, but were not collected.

Okak 1 (HjCl-01)

Okak 1 is the largest sod house village in Labrador. Historic records detailing the life of Okak people found in Moravian Mission archives, also make this one of the best documented sites in Labrador. Okak 1 has been the subject of investigation by a number of archaeologists, yet a carefully measured map of the site does not exist. Cox's map was adequate for the initial reporting of this site; however, given the number of people who have tested various portions of the site, and the site's scale and complexity, future work should first begin with a mapping of houses and test pits.

Test pits in the western and northern end of the site revealed Dorset materials, suggesting that Dorset structures may be uncovered here if they have not been destroyed by later building activity. Other test pits at Okak 1 were associated with Neoeskimo dwellings.

House 2: This sod house was investigated when a test pit was placed in the entrance passage. Chert flakes, nephrite, a flake of soapstone, flakes of Ramah chert, an unmarked kaolin pipe stem, cut bones, mussels shell skins, and charcoal were recovered.

House 4: A test pit in the vicinity of House 4 revealed a thin cultural deposit containing bone smears and poorly preserved wood. A flat stone pavement was encountered 24 cm below the surface. A nephrite drill bit was recovered 30 cm below the surface and under a pavement rock. The drill is pencil-like. Its distal end is a round polished shaft with a beveled tip. The drill's proximal end remains in a roughed out form and bears evidence of cut and groove marks.

A grey slate ulu or knife fragment, a kaolin pipe bowl fragment, a kaolin stem fragment, four white glass beads, flakes of Ramah chert, quartz, and black chert were found throughout the test pit. The drill bit, ulu fragment, and slate flakes suggest that a prehistoric Neoeskimo component may be isolated in this section of the site.

House A: Designated House A by Cox (1977), this is the largest sod house at Okak 1. The house sits at the crest of the beach overlooking other houses with excellent visibility in all directions. Size and location suggest that the house was inhabited by a prominent family.

A test pit placed in House A revealed 35 cm of deposit containing evidence of charcoal, poorly preserved wood, and a single corroded nail shaft. The paucity of goods from this test pit is in sharp contrast to similar test pits placed in Eskimo Island houses.

Okak 1 is not an ideal site in which to try to investigate the prehistoric part of Labrador Neoeskimo sequence, since 18th century construction projects disturbed much of the site. A project focusing on 18th century subsistence practices and social organization can be developed using data recovered from Okak 1 if ethnohistorical data is integrated into the project.

Green Island 6 (HkCk-01)

Green Island 6 is a Neoeskimo semisubterranean sod house settlement located at the east end of a cove on the north end of Green Island. The site was first investigated by Steven Cox (1977) who concluded that it was a Neoeskimo settlement, possibly dating to the precontact period. Green Island 6 was revisited in an effort to recover materials that could be used to date the site and its individual structures, and to determine whether further work at the site was warranted.

The site consists of thirteen houses built into a sandy ridge overlooking a cove. The houses are in four clusters: House 1 and 2 are paired, as are Houses 4 and 5. House 3 stands alone. Houses 6 - 13 are clustered together and cut into one another. All house entrance passages face away from the water, an unusual arrangment for Neoeskimo dwellings. Possibly, this orientation was chosen so as to avoid exposure to the strong winds that blow from the north.

The houses differ from other Neoeskimo structures examined to date in that many have a single sleeping platform placed along a side wall rather than along the rear wall of the dwelling. Cold traps are evident in many of the entrance passages.

House 3: A test pit was placed in front of the cold trap in the entrance passage of this 4 m by 3 m house. A Middle Dorset nephrite burin-like tool was recovered. In all likelihood the tool was brought into the house in sods cut further down the beach where a Dorset nephrite working station is located.

House 7: The entrance passage of this structure was tested. A paved stone floor was uncovered running 27 cm to 42 cm below the surface. Poorly preserved wood and flakes of Ramah chert were recovered.

House 11: A test pit in this clover leaf-shaped structure's entrance passage, and another at the juncture of the sleeping platform and floors revealed three layers of humidified peat. Ground green slate fragments were recovered from House 11.

Plans to return to Green Island 6 to continue testing houses were abandoned when the crew was confined to the boat due to high winds and rough seas. Further investigations of this site in conjunction with excavations at Iglosiatik Island 1 should produce interesting information concerning house forms by early Neoeskimo groups.

CONCLUSION

Despite a short field season most research objectives of the 1984 field season were met and a number of interesting research problems were identified. The Sculpin Island structures and structures resembling them can now be placed in a temporal and cultural context. Research at Skull Island 6 has provided data in the form of ground and drilled stone tools and flakes that place the Sculpin Island-like structures in the prehistoric Neoeskimo period. Typically, between one and two dozen structures are found in a site. The sites are located on outer islands, near capes, or in other areas where the sina is accessible. Site locations suggest that the structures were built by people who were hunting marine mammals and possibly birds at the sina in the spring. Related sites found near rattles and tickles in inner island regions may have been occupied in the fall as well.

The dating of Sculpin Island-like structures to the prehistoric Neoeskimo period allows characterization of an early Neoeskimo subsistence focus. Sod houses as well as Sculpin Island-like structures were built in outer island environments, suggesting a strong orientation to this resource zone in the fall, winter, and spring when people hunted large marine mammals, seals, and birds. Whether groups then moved to inner islands and bays to fish, and hunt seals and caribou is not yet known. Along the central coast the outer island focus also allowed the pioneering Neoeskimo to maintain a distance from

Point Revenge Indians inhabiting inner island and bay regions.

The distribution of Sculpin Island-like structures appears to extend from Killinek to Hamilton Inlet. If the site of Black Island 5 represents a sina hunting site for Eskimo Islanders, this raises the possibility that sites containing Sculpin Island-like structures will be found further south along the coast. In this regard, re-examination of stone structures that contained Neoeskimo stone and metal tools in the St. Paul's River area (Martijn and Clermont 1980) is in order. This season's findings suggest that archaeologists searching for evidence of precontact and early contact Neoeskimo sotes in the Strait of Belle Isle region should look for Sculpin Island-like structures rather than sod houses and round or oval tent rings.

When and why Neoeskimo abandoned the use of Sculpin Island like structures and stopped frequenting these outer island sites (later period tent rings are rarely found at these sites) has yet to be determined. Whether the adoption of oval and circular tent rings coincides with major changes in sod house forms and subsistence-settlement patterns is not clear. Whether Structure 1 at Skull Island 6 is unique, or whether other large sites similar to Skull Island 6 contain such structures needs to be investigated.

The re-examination of sod house sites located between Hamilton Inlet and Okak has been productive. It has become evident that early Neoeskimo groups preferred to build sod houses into sandy beaches and terraces. Iglosiatik Island 1, Green Island 6 as well as many north coast precontact sod houses sites have been built into sandy banks. Clearly, drainage was good in these areas and the sands were relatively easy to excavate.

The Eskimo Island houses retain their unique status in that they produce large quantities of European materials. Additional work at these Eskimo Island sites is possible and may clarify questions relating to the history of contact in the region.

Investigations at Iglosiatik Island 1 and Green Island 6 produced more intruguing questions than answers. Test pits placed in Iglosiatik Island 1 houses yielded groups of artifacts and early radiocarbon dates that raise important chronological problems. Did Neoeskimos occupy Iglosiatik Island and therefore Labrador prior to the 14th century? Or are the carbon samples dating an earlier Dorset occupation of the island? Does the recovery of slate and metal in the same stratigraphic context represent evidence of early contact between Neoeskimos and Europeans, or have Iglosiatik Island houses been reused and their deposits disturbed?

Visits to sod houses sites between Hamilton Inlet and Okak suggest that a project that combines excavations at Iglosiatik Island 1 and Green Island 6 will produce valuable information concerning early Neoeskimo sod house architecture and changing house forms. The sod house sites at Okak, Nuasornak, and Oakes Bay will provide interesting data on the economy of 18th century settlements. The great disappointment of the summer was not locating Junius Bird's site of Karmakulluk in the Hopedale region, as evidence suggests that this site may complement Eskimo Island 3 and represent the early contact period in the Hopedale region.

Throughout the summer fine grained slates, nephrite, and soapstone were recovered from Neoeskimo sites. These artifacts join a growing body of specimens that make a materials analysis project focussed on Neoeskimo trade networks and settlement relations possible. Such a study would complement similar research underway relating to the Dorset period (Nagle 1983, this volume).

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REFERENCES CITED

Bird, Junius
1945 Archaeology of the Hopedale Area, Labrador. *Anthropological Papers of the American Museum of Natural History* 39 (2).

Cox, Steven L.
1977 *Prehistoric Settlement and Culture Change at Okak, Labrador*. Unpublished Ph.D. dissertation, Department of Anthropology, Harvard University.

Gathorne-Hardy, G.
1922 A Recent Journey to Northern Labrador. *The Geographical Journal* 59 (3): 153-169.

Gathorne-Hardy, R.
1963 *Travellers Trio*. Thomas Nelson and Sons, Ltd., London.

Kaplan, Susan A.
1983 *Economic and Social Change in Labrador Neo-Eskimo Culture*. Ph.D. disseration, Department of Anthropology, Bryn Mawr College. University Microfilms, Ann Arbor, Michigan.

1985 Eskimo-European Contact Archaeology. *British Archaeology Reports, International Series* 233, pp. 53-76.

in press European Goods and Socio-Economic Change in Early Labrador Eskimo Culture. *Cultures In Contact, The Impact of European Societies on Native Institutions In Eastern North America*. W. Fitzhugh, ed., Washington D.C. Anthropological Society of Washington.

Laeyendecker, Dosia
n.d. *Identification of Some Wood Samples from Historic Sites from Northern Labrador*. Report on file, Department of Anthropology, Smithsonian Institution.

Martijn, C.A. and N. Clermont
1980 Les Structures de Pierres et la Mandibule du Site EiBk-3, Basse-Cote-Nord, Quebec. *Etudes Inuit Studies* 4 (1-2): 127-134.

Matthews, Barry
1975 Archaeology Sites in the Labrador-Ungava Peninsula: Cultural Origin and Climatic Significance. *Arctic* 28 (1): 245-262.

Nagle, Christopher L.
1984 Lithic Procurement and Exchange in Dorset Culture along the Labrador Coast. Unpublished Ph.D. dissertation, Department of Anthropology, Brandeis University. University Microfilms, Ann Arbor, Michigan.

Schledermann, Peter

1971 The Thule Tradition in Northern Labrador. Unpublished M.A. thesis, Department of Anthropology, Memorial University of Newfoundland.

Tanner, Vaino

1941 Ruinera pa Sculpin Island (Kanayaktok) i Nain's Skagard, Newfoundland-Labrador. Geografisk Tidsskrift 44: 129-155.

Wenner, C.G.

1947 Pollen Diagrams from Labrador. Geografiska Annaler 29 (1-2): 5-241.

Figure 1

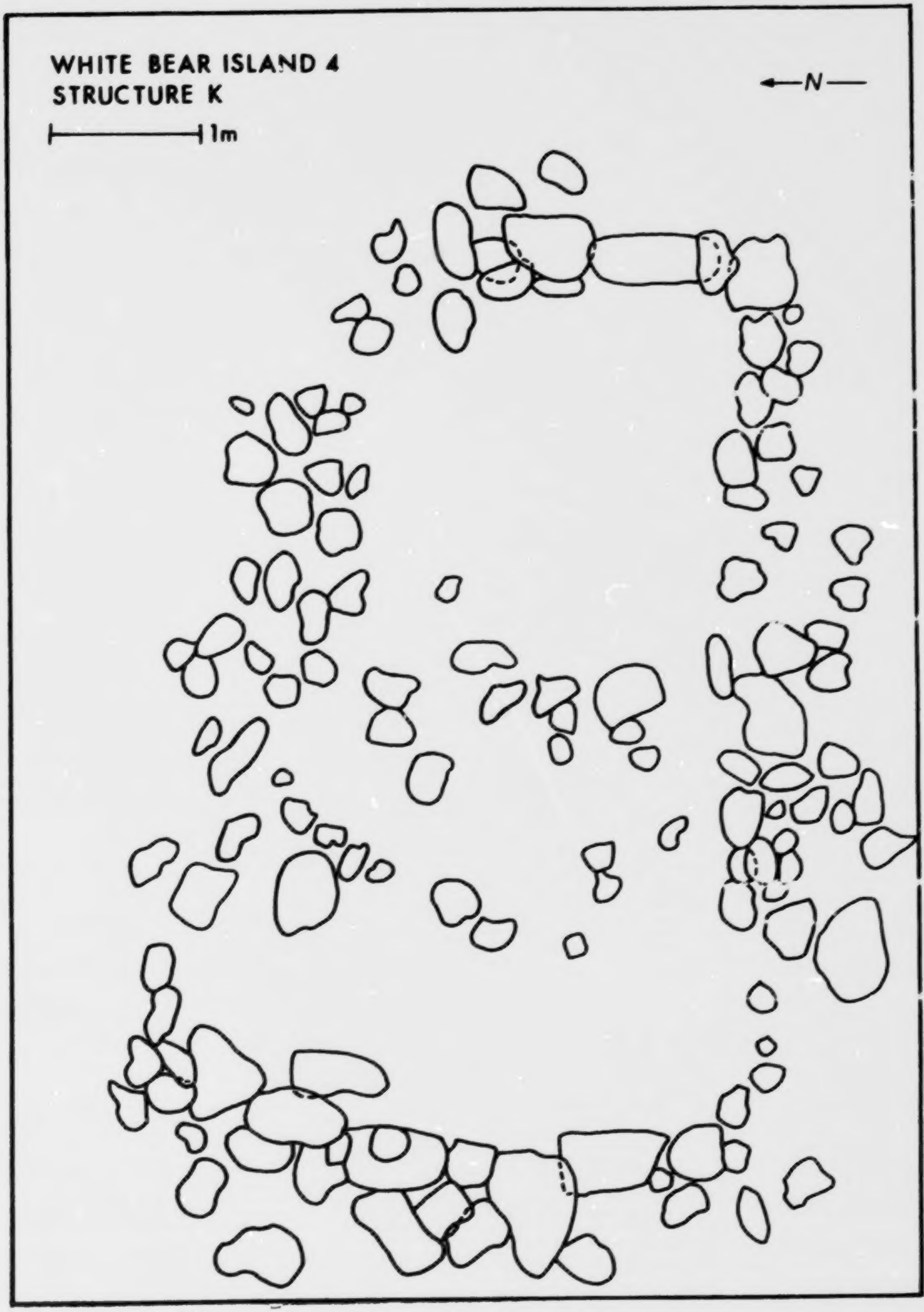

WHITE BEAR ISLAND 4
STRUCTURE K
1m
N

Figure 2

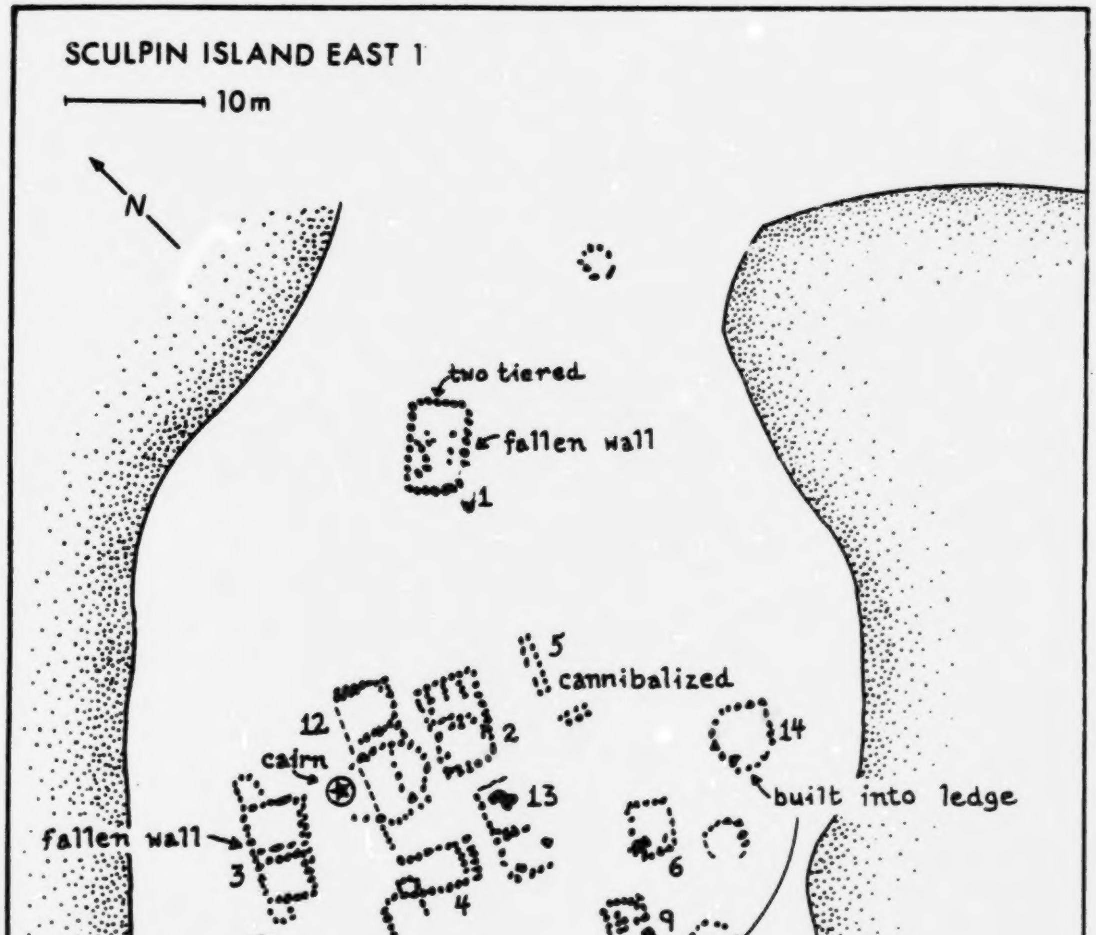

SCULPIN ISLAND EAST 1
10m
N
two tiered
fallen wall
1
5
cannibalized
12
2
14
cairn
13
built into ledge
fallen wall
3
6
4
9
15
cache
paved
11
7
8
10
two tiered
cache
16
cache
17
tip of peninsula ~25 m

Figure 3

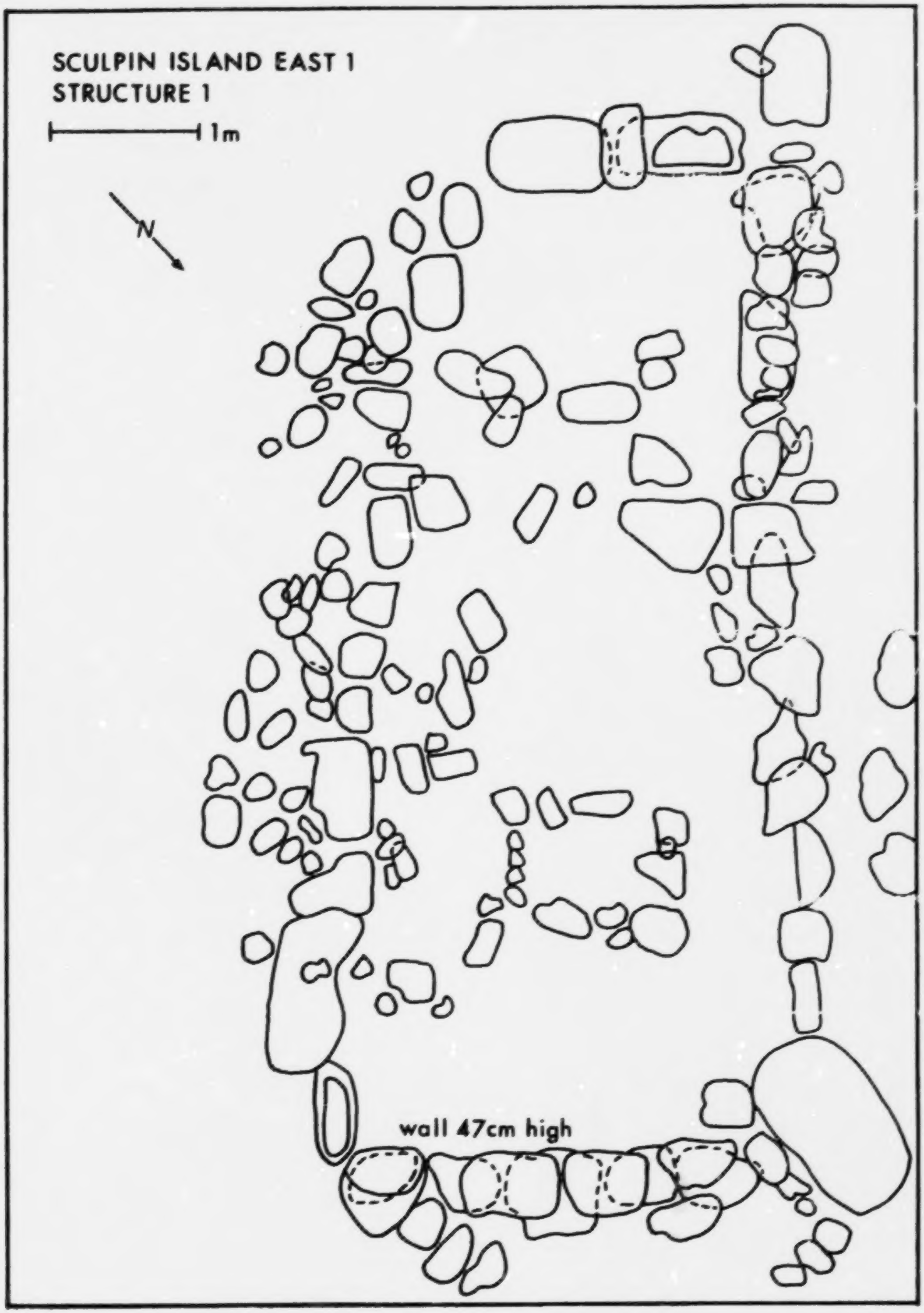

SCULPIN ISLAND EAST 1
STRUCTURE 1
1m
N
wall 47cm high

Figure 4

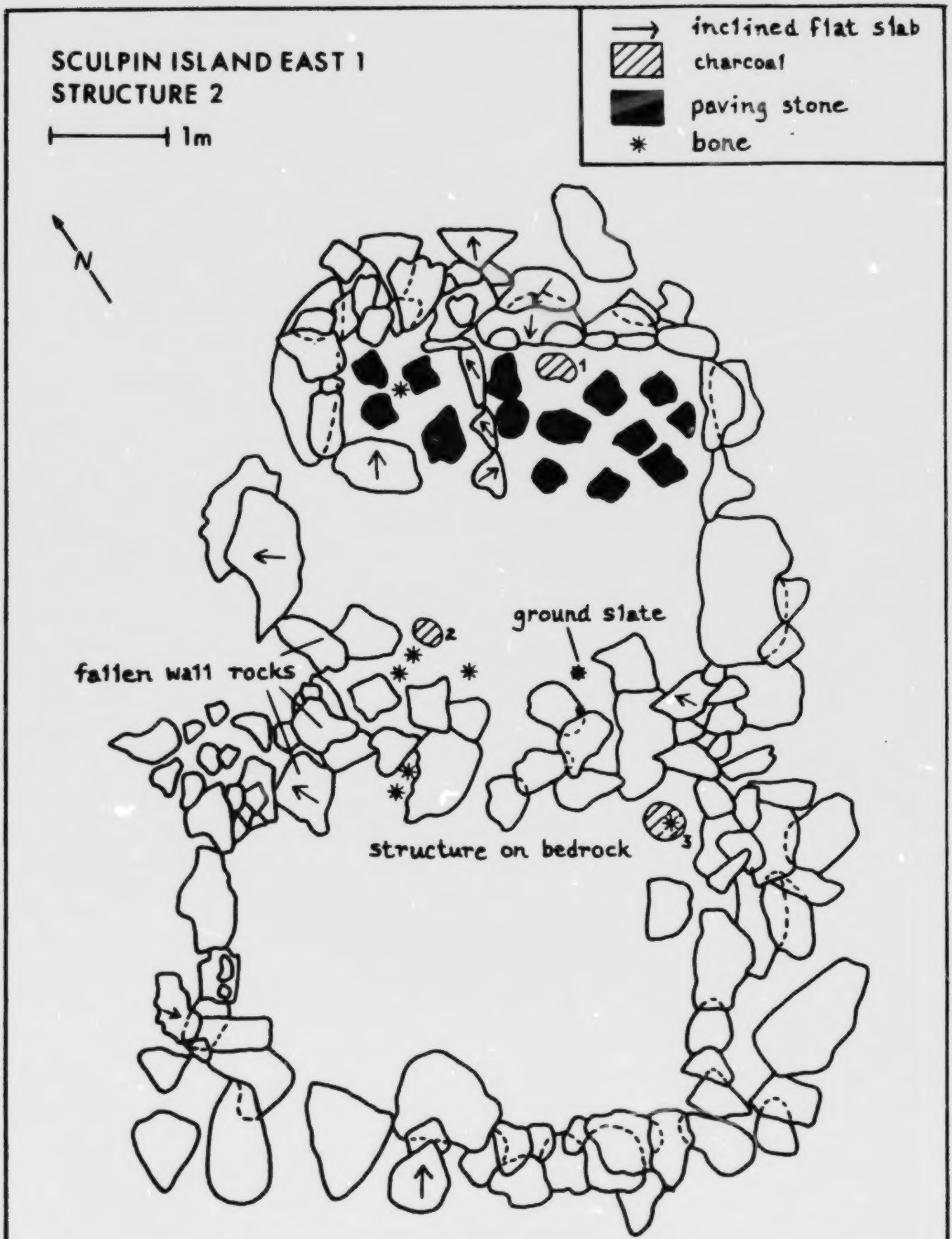
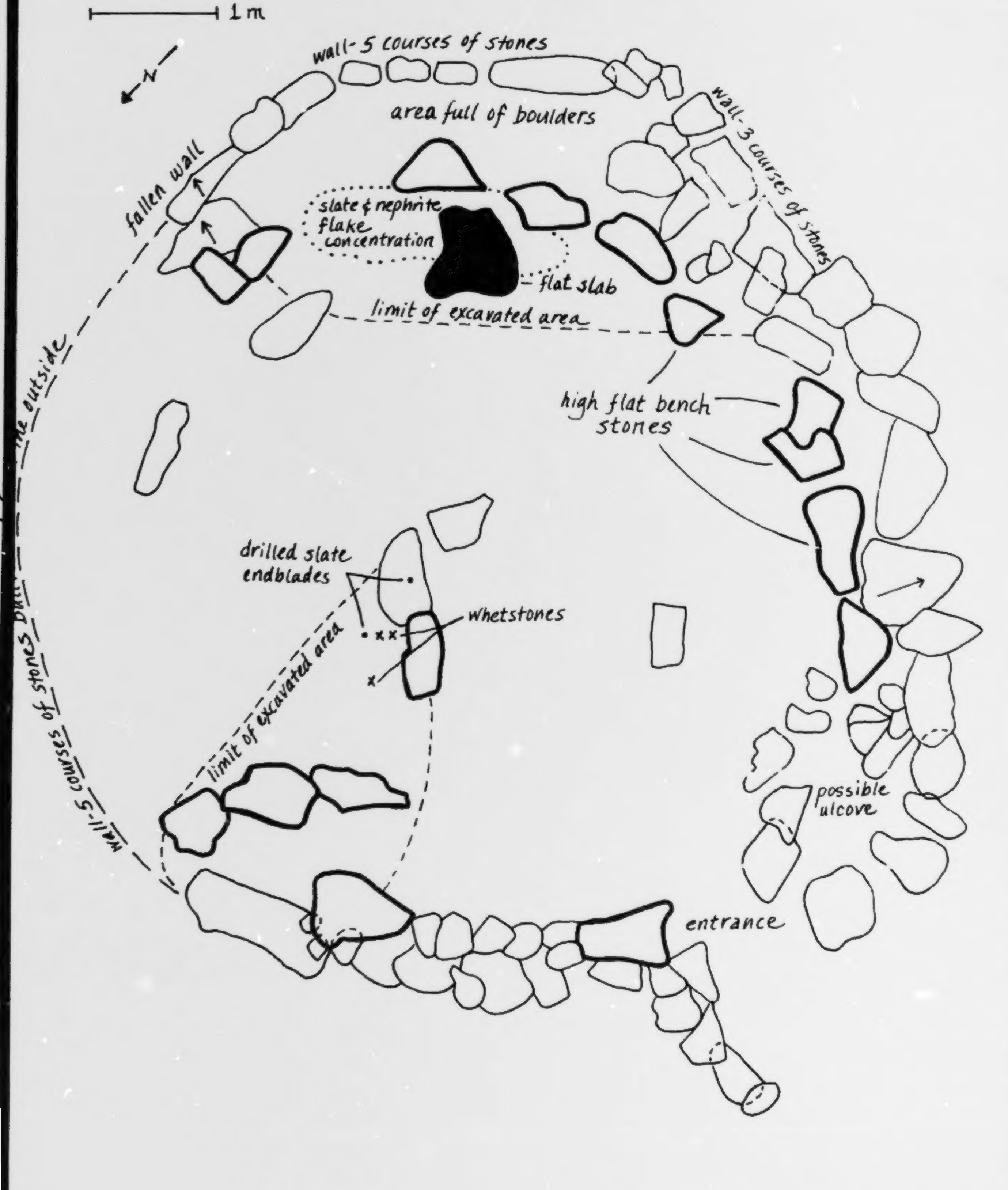

SCULPIN ISLAND EAST 1
STRUCTURE 2
1m
N
inclined flat slab
charcoal
paving stone
bone
1
2
3
ground slate
fallen wall rocks
structure on bedrock

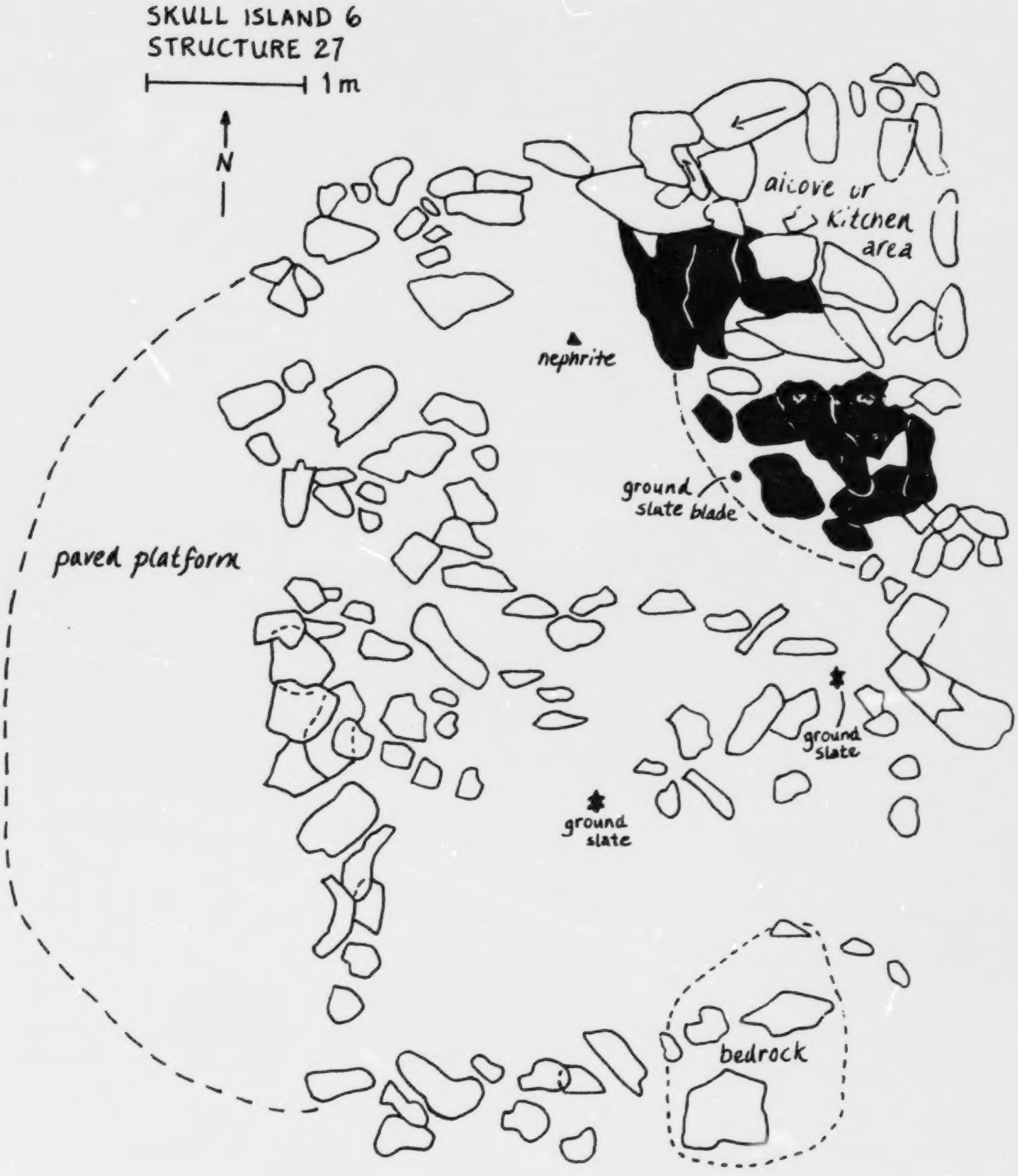
Figure 5

SKULL ISLAND 6
STRUCTURE 1



1m
N
wall-5 courses of stones
area full of boulders
wall-3 courses of stones
fallen wall
slate & nephrite flake concentration
flat slab
limit of excavated area
high flat bench stones
drilled slate endblades
whetstones
limit of excavated area
wall-5 courses of stones buil
he outside
possible alcove
entrance

Figure 6


SKULL ISLAND 6
STRUCTURE 27
1m
N
alcove or
kitchen
area
nephrite
ground
slate blade
paved platform
ground
slate
ground
slate
bedrock

EARLY MARITIME ARCHAIC SETTLEMENT STUDIES
AND CENTRAL COAST SURVEYS

BY

William W. Fitzhugh
Smithsonian Institution

During the past ten years extensive research has been conducted on Maritime Archaic culture on the central and northern Labrador coast. Earlier research concentrated on chronology, assemblage definition, and regional distribution. More recently, work has been directed at analysis of site settlement patterns and residence structure change through time (Fitzhugh 1984). The following report comments on three aspects of this research: laboratory analysis, 1984 fieldwork, and preliminary conclusions based on these field studies.

LABORATORY STUDIES AND CULTURAL MODELS

Recent laboratory work has been directed at a monographic study of Maritime Archaic occupations of central and northern Labrador. This study describes all of the Maritime Archaic sites known for this region and presents a chronological, distributional, and functional analysis of these remains, which date to 7000-3500 B.P. Particular attention is being given to burial and habitation remains for their contributions to understanding social and economic aspects of the Maritime Archaic society.

This work has taken two forms. Aron Crowell is testing the longhouse development model using statistical and computer-aided studies of spatial data from excavated sites like Aillik West and Nulliak where there is evidence of longhouse architecture, and from sites like Black Island 2, Sandy Cove, Rattlers Bight and others for which direct evidence of longhouse construction does not exist. In these cases we have been studying the distribution of hearths, tools, debitage, and faunal remains against the longhouse model. This research is proceeding with the aid of K-means analysis and various density contour plotting routines. Preliminary results support the hypothesis that the excavated remains from all of these sites were deposited within narrow rectangular structures subdivided into small hearth-centered dwelling compartments. In most cases the assemblage composition within and between these clusters is minimal, suggesting that the inhabitants of individual longhouses had a relatively "egalitarian" mode of lithic tool production and use without obvious craft specialization or difference in the types and quantities of raw materials available, or in functional or social segregation of lithic assemblages.

A second aspect of the laboratory study relates to density of tools, debitage, and hearth deposits. The purpose of this work is to derive measures of occupation duration in individual houses that could be used to compare house occupancy at multi-house sites and different sites. Such measures might, for instance, provide a means of determining if houses at central coast sites like Rattlers Bight were lived in for longer periods than were houses at north coast sites like Nulliak. This in turn might help resolve such questions as variablility in regional settlement pattern cycles, i.e. whether Maritime Archaic adaptations, settlement patterns, and seasonal movements were the same at Rattlers Bight as they were at Nulliak and other north coast sites, or whether there were significant regional differences in occupancy duration.

Until recently, it has been assumed that separate but relatively similar settlement systems following some variant of the coastal-interior adaptation type (Fitzhugh 1972: 161-170) characterized the activities of a number of regional groups on the central and north coast. According to this model, these groups theoretically obtained their immediate subsistence needs from a circumscribed local environment like Hamilton Inlet, Cape Harrigan, or Saglek. Their non-local material requirements (Ramah chert, copper, slate, birchbark, etc.) were obtained through regional exchange systems. Two factors, however, have suggested that expeditionary procurement may also have been undertaken. One is the evidence that Nulliak contains a very large number of longhouse structures, more than 25 at last count, whereas known central coast sites have only one or a few such structures. In addition, many of these northern houses appear from their limited deposits of tools and hearth remains to have been occupied for only a short period of time, perhaps only a few weeks. Another factor is the evidence of a Pre-Dorset enclave in the Nain-Okak region, in the midst of the wider Late Maritime Archaic coastal distribution at 3500-4000 B.P.

Measures of occupation duration would help determine if central coast and north coast sites were used in different ways and for different periods of time. Such differences might relate to greater or lesser periods of occupancy at coastal sites in different geographic regions, suggesting that regional variations existed in seasonal settlement patterns. However, the evidence for short-term occupation of many north coast sites, especially those north of the Pre-Dorset enclave, might result from an entirely different pattern of adaptation to regional resource variation. Perhaps some of these non-local resources, especially Ramah chert and possibly caribou, which are plentiful on the coast north of Okak during the summer season--the prime time for coastal navigation--were obtained directly by central coast groups which made seasonal forays north from their central coast home bases to acquire them. If these trips were for a limited period of time, travel beyond the forest limit would not have been a serious problem, and if such trips were undertaken by numbers of regional bands, the potential dangers from Pre-Dorset people in Nain and Okak might also have been a minor difficulty. According to this model the anomalously large late Maritime Archaic sites (Nulliak and Saglek Site A [see Tuck 1975: 76; Fitzhugh 1984]) found on the north coast might be explained as multi-band summer gathering places used for staging camps for northern resource acquisition.

Data from other archaeological periods and from recent history provide support for this northern expeditionary model. Saunders especially and Point Revenge groups acquired Ramah chert even though the lithic source was north of their normal settlement areas (Nagle 1978; Fitzhugh 1978a). Conversely, 17th century Labrador Inuit people travelled far south of their settlement bases to raid and trade for European goods from early whaling and fishing stations in the Strait of Belle Isle (Kaplan 1983, 1985). Likewise, the history of the modern Labrador-Newfoundland fishery provides many examples of southern-based exploitation, probably for the same reasons that would have motivated early cultures, i.e. more favorable over-wintering south of the forest boundary as well as more abundant food resources here during much of the year. This travelling form of seasonal adaptation to arctic regions, involving wintering in the south and summering in the north, is characteristic of many animal species as well. Such a model may be difficult to prove without the sheer luck of mating fragmented tools between Rattlers Bight and Nulliak. Nevertheless, through such methods as micro-stylistic analysis of tools and variations in raw material and occupancy duration it may be possible to approach these questions in a more systematic way.

ARCHAEOLOGICAL RESOURCES AND DATA STANDARDIZATION

As the above discussion indicates, the interpretation of Maritime Archaic remains in Labrador becomes more complex as the volume of information increases. Nevertheless, I would argue that these studies offer potential for understanding the development of this particular culture and for refining methods of archaeological analysis. It is obvious that presence of a regional database is important. One could not investigate these problems without a large regional sample, such as that provided in Labrador by virtue of geological uplift, which has removed the sites from coastal erosion and diminished the mixing of chronological components. It may also be added that many Maritime Archaic longhouse sites commonly appear to have been abandoned after a single brief occupation, never to be re-occupied. Sparse remains, homogeneity of raw materials, typological consistency, lack of feature disturbance and structure cannibalization, and other lines of evidence support this observation. Hence, these sites are ideally suited for process-related investigation involving technological production, functional analysis of assemblage variation, and spatial studies relating to social and economic factors within residence communities. The existence of comparable units of analysis from burial assemblages present at many Maritime Archaic sites greatly strengthens the potential of the site-oriented studies, because burials usually contain the finer artifacts and the exotic materials necessary for interpreting habitation data in a larger regional framework.

In addition to the presence of this archaeological resource, however, it is necessary, in order to prosecute these studies, to acquire and analyze these data in a systematic, standardized fashion. This applies to site survey, to the primary acquisition of field data, and to laboratory analysis. To be comparable, sites must come from similar segments of a seasonal round. They then must be excavated in the same ways, using standardized recovery methods (backdirt screening, point provenience for artifacts, and feature and quadrant unit recording for artifacts, debitage, faunal remains). To compare these data from house to house and site to site, similar standards have to be developed and maintained for laboratory analysis. Debitage needs to be sorted into standard raw material types, into patinated and unpatinated fractions, and into weighed and counted size classes by passing through graduated geological screens. Whole and fragmented artifacts need to be weighed and sorted by raw material type and typological class. Similar treatment is needed for faunal remains. And although it is more difficult and probably has to be done in the field, the type and extent of fire-cracked rock in hearth deposits needs similar quantification.

Only by developing data in this way can analyses such as those discussed above be accomplished. As our studies have progressed using Labrador data, we have refined our field and laboratory methods so that comparability could be achieved. We have had the advantage that most sites have been discovered, mapped, excavated, and analysed within a single program of research and with a single set of standards and goals. This is not always the case in archaeological work. Nevertheless, I would urge that as archaeology in Newfoundland and Labrador progresses, with increasing support from government funds for both research-oriented and salvage operations, consideration be given to developing and adopting standard methods wherever possible. This approach should be considered by those engaged in Maritime Archaic studies in Newfoundland and southern Labrador because comparisions between these and central and north coast data will become increasingly important. Similar methods, however, should be applied to all archaeological field data, for as time and work move forward we must become more concerned with the preservation, protection, and comparability of the diminishing database at our disposal.

1984 CENTRAL COAST SURVEYS

Narrative

As in previous years the goals of the 1984 field season included a variety of objectives. Among them were re-surveys of sites that had been noted previously but had not been evaluated adequately. These included several sites between Hamilton Inlet and Nain located on high, early marine beaches that might now be interpreted as being early Maritime Archaic sites. In addition, attention was given to locating new sites of this period, and to excavating promising structures that were found. The objective was to increase the rather small sample presently available for the Early Maritime Archaic period, and most specifically, to gather data on the dwelling structures and the chronololgy of the proposed shift from single-family pithouses to small, segmented multi-family rectangular structures, the latter forming the basis for the subsequent—and better understood—longhouse expansion.

In addition to concentrating on Early Maritime Archaic settlement patterns and chronology, I provided survey and logistic assistance to other projects: to Christopher Nagle's initial attempt to locate the source(s) of nephritic jade in the central coast region; to Susan Kaplan's Thule and Early Labrador Eskimo project; and to Stephen Loring's work on Point Revenge culture. The geographic range of these projects was from Goose Bay to Okak. Fieldwork was conducted from the Tunuyak, with separate field parties being established for various aspects of the work. Loring's project, in the inner bay fly country, was logistically separate for obvious reasons--the flies. The results of these projects are presented elsewhere in this volume.

Fieldwork was conducted for a period of two months between 29 June and 1 September. Problems in preparing Tunuyak for the sea delayed departure from Goose Bay until 18 July. The two weeks lost were to have been spent in Groswater Bay and in surveys for Maritime Archaic, Dorset, and Labrador Eskimo sites in the poorly surveyed region between Smokey and Cape Harrigan. Our departure crew consisted of Robin Goodfellow and Lawrence Jackson from Goose Bay, Susan Kaplan, Ben Fitzhugh, and the author. At various other times in the summer we were joined by Chris Nagle, Steven Cox, Stan Leaming, Lynne

Fitzhugh, Stephen Loring, Jeremy Koff, Roger Kvist, and by Mark Saksagiak and Henoch Townley of Nain.

Work began with an eventful passage out Lake Melville in which our mettle was tested during a night-time squall. The next day Susan Kaplan reconnoitered Eskimo Island with a metal detector, an invaluable aid to Neoeskimo research, and reinforced her view of the remarkable abundance of European trade goods in these sites compared to sites on the northern coast. Visits were then made to Rigolet and to Ticoralak Island, where we had excavated Groswater (Dorset) sites in 1968-9. During those early days artifacts had been more important to us than structures, and though several probable Groswater houses were noted, none were excavated. Today, we recognized these structures as remarkably well-preserved Groswater mid-passage dwellings which, when excavated, will greatly enhance our rather meager data on site settlement patterns and dwelling structures of this period.

Humpback whales were again in residence in Groswater Bay during our passage, as in the previous year. After photographing their tails for the MUN identification project, and visits to Black Island and Rattlers Bight, we proceeded directly to Cape Harrison, unable to take time for surveys in the Holton-Smokey region. We also decided to postpone work at a potential early Maritime Archaic site at Tilt Cove (Seal Cove Point/Cape Deus) until later in the summer, and continued on to Hopedale, arriving on the morning of the 22nd. By evening we had reached Chris Nagle's camp on "Semiak" Island. The next several days were spent inspecting the "lost" Semiak soapstone quarry, sampling the Napatalik North Dorset middens, mapping a solitary pithouse of suspected Maritime Archaic affiliation, testing the Labrador Eskimo site excavated by Junius Bird at Anniowoktok, and attempting, without the aid of Bird's map, to relocate the early Labrador Eskimo village of Karmakulluk.

Departing Napatalik after a severe three-day storm that leveled our tent camp, brought ice back onto the coast, and strained the Tunuyak's hotel facilities, we proceeded to Windy Tickle and to a small cove west of "Devil's Thumb" at Cape Harrigan where several early Maritime Archaic houses and a few Dorset sites were found. En route to Davis Inlet, calm seas permitted a survey at the exposed headland, South Tikigakjuk Point at the eastern entrance of the Big Bay, where we searched for nephrite but succeeded only in finding early Maritime Archaic structures. We also mapped high boulder cache pits and structures at Big Bay Point. Crossing towards Davis Inlet, we noticed the atmosphere clouded by haze from a forest fire inland from Sango Bay.

Our next call was at Iglosiatik Island where we tested and mapped the large multi-component Neoeskimo site and conducted a preliminary metal detector survey. Surveys at House Harbour at the eastern end of the island produced several large Maritime Archaic sites with burial features, but the scope of work required here was beyond our capabilities this year, and after mapping these finds we proceeded into Voisey Bay where we rendezvoused with Stephen Loring at Kamarsuk, and the next day reached Nain.

After a short time in Nain, we set out for a week's work in Okak, aimed primarily at searching for nephrite and testing Neoeskimo sites. During this period surveys were conducted at Snyder Bay, Moores Island, Nutak, Green Island, "Lone Tree" Cove, Kivalekh (Okak), Nuasornak, Iglusuaktalialuk, and Illuvektalik. Most of the work at these locations involved visiting sites that had been discovered or excavated earlier, but a considerable amount of new survey work was also accomplished, in addition to geological reconnaissance. Of greatest importance were new data from the Thule winter village at Green Island (Cox 1977:123), from an early Maritime Archaic longhouse structure at "Lone Tree" Cove (a small cove between Galley Harbor and Uivak Point), and from a large complex of Pre-Dorset sites on western Nuasornak Island.

Returning to the Nain region on August 7th, we continued settlement pattern surveys in the northeastern islands, searching among other things for the elusive Thule winter village that is suspected to exist in this vicinity. Orton Island, a large and extremely barren location, contained traces of Maritime Archaic and Dorset occupation and some very fine Labradorite deposits. Akulaitualuk and the Gang Islands were found to have a few small, mostly recent sites, and a large early Labrador Eskimo encampment was located at the passage between the Gang Islands. New tests were also made at the Oakes Bay Labrador Eskimo winter village in a futile attempt to identify a Thule culture component here. Small Pre-Dorset and Dorset components at Web and Henry Islands were excavated.

From here we travelled to Skull Island where a very profitable two days was spent sampling the large Dorset winter house mound for faunal preservation (little) and nephrite debitage (considerable). In addition, a set of three small rectangular structures, initially believed to belong to the early Maritime Archaic, were excavated and re-assigned to early Labrador Eskimo. Meanwhile, Susan Kaplan mapped the large boulder house camp at the northwestern end of the island and succeeded in identifying it as a large and significant Thule occupation. The two days following this were spent working at Natsatuk on a Maritime Archaic site previously tested in 1976. Maps, controlled surface collections, and test pits produced important new data from the site.

Following a crew change, work resumed at outer island early Maritime Archaic sites on high boulder beaches at Karl Oom, Imilikulik, and Whale Islands. Important data on pithouse and rectangular structure form and chronology were recovered. This concluded the planned research in the Nain region,and we proceeded south, joining forces with Stephen Loring's crew at Daniel's Rattle, extracting them from fly-country for the trip to Goose Bay. En route, excavations were conducted at South Tikigakjuk Point and Tilt Cove Point; at the Windsor Harbour and Webeck Harbor Point Revenge sites; at a boulder structure complex at Big Black Island (Black Island 4); and at the West Pompey Island pithouse cluster found in 1968 on the crest of this island in western Groswater Bay. This work resulted in reclassifying the Big Black Island 4 and Tilt Cove Point sites as Labrador Eskimo and the West Pompey Island site as early Maritime Archaic. The season came to an end a few days later on the first of September with our arrival in Goose Bay where the boat and gear were to be stored for the winter.

Among the many interesting experiences of the summer, two in particular were unforgettable. On the way south with the combined Loring and Fitzhugh crews we stopped for a day to excavate the South Tikigakjuk Point Maritime Archaic site high on a point above the sea. After a long day of warm, calm weather, an offshore breeze arose. The breeze grew stronger, whisking away the flies, and as the weather cooled and time passed, an urgency to complete the excavation and to depart before it became impossible to bring the speedboat in from its off-haul because of increasing surf grew to a fever pitch.

Finally, work was finished and we gathered our gear and headed for the speedboat. Reaching the hilltop that had obscured the Tunuyak from view all day, we found to our horror that she was nowhere in sight! Gone! Not dragged ashore and mangled on the rocks... just gone! Casting our eyes seaward with premonitions of disaster, we were rewarded shortly by the sight of a familiar far-off form rolling in the trough about a mile out in Big Bay. Leaving part of the crew ashore and hoping that our problems would not be compounded by motor trouble, we set off and were able to re-capture our errant vessel, get her engine started (there had been recurrent electrical problems all summer), and picked up the remaining crew. The moral of this story, to paraphrase William Brooks Cabot's great coastal canoeing line ("beware of low shoals and rising seas on a falling tide") was: beware of anchoring unattended in an offshore breeze on a steeply sloping bottom.

The second experience was equally stimulating but far more pleasant. While rounding Cape Harrison we encountered a pack of 6-8 killer whales moving at a rapid pace northward. The group included one large male and several smaller animals. This is the first direct observation of these spine-tingling creatures we have made in our extensive coastal travels in Labrador waters.

PRELIMINARY RESULTS

The 1984 season produced important new data on a number of research goals that have continued to motivate our archaeological work in Labrador. These results are briefly summarized here with the exception of Neoeskimo and geological studies, which are described elsewhere. In all twenty-four new sites and forty-one old sites were investigated during the six week period of fieldwork.

Maritime Archaic Results

The following work was conducted at Maritime Archaic sites:

1) Pompey Island 1 (GbBm-2)

This site, consisting of three round or oval boulder pit structures in a boulder beach about 85 m above sea level was previously thought to have been occupied by Labrador Eskimo (Fitzhugh 1972:89). However, with recent recognition that pithouses were used by Maritime Archaic people, and that they (contrary to former beliefs) sometimes contain diagnostic materials for those stout-hearted souls willing to excavate in boulderfields, an attempt at scientific recovery was made. The interiors of two of the three structures were excavated. The smaller structure (S-1) was found to contain traces of red ochre and a single flake of Ramah chert. These data, in addition to the high elevation and similarity of the house forms to those known from other early Maritime Archaic sites, provide the basis for a tentative assignment to this phase.

2) Black Island 4 (GcBk-17)

This site lies on a high marine terrace on the southwest side of Big Black island, above a large Thule or early Labrador Eskimo site (GcBk-18). Previously thought to be Maritime Archaic, the boulder pits were excavated with the expectation of finding early cultural remains but instead we found undecayed bone and fox traps of Inuit design. This site has been reassigned Neoeskimo.

3) Tilt Cove Point 1 (GeBn-1)

Test excavations were conducted at this site, previously referred to as `Seal Cove Point', to determine if the many small rectangular structures on high beach lines were early Maritime Archaic, as previously thought (Fitzhugh 1984:13), or Labrador Eskimo as `pluperfectly' thought. Hopes that the small rectangular structures, to which circular rooms were sometimes attached, represented a transitional stage of Early Maritime Archaic dwellings were quashed by the presence of fresh charcoal, bits of undecayed bone, and a complete absence of lithic debitage. This site has now been reassigned to its original designation as Labrador Eskimo, to which I hope it remains.

4) Aillik 2 (GhBt-3)

New work at the type site established the presence of a new longhouse (Structure 9) on the terrace below S-2. This new structure lies at 15 m above sea level,is 22 m long, and has 11 compartments. A test excavation in the highest structure (S-7), a small rectangular structure with a central divider and two room segments (Fitzhugh 1984: Figure 2), produced a flake of Ramah chert.

5) Multa Island 1, 2 (GkCb-1,2)

A small amount of Ramah chert and quartz debitage found above the Paleoeskimo beach level suggested the possibility of a Maritime Archaic site at Multa island 1. Perhaps less equivocal was the discovery of a large group of boulderfield structures at Multa Island 2. No diagnostic materials were recovered from either site.

6) Napaktalik North 1 (GjCc-6)

The high oval pit located at 26 meters above sea level on the beach-pass at the south end of this site was mapped, but time did not permit excavation. A possible Maritime Archaic boulder pavement was found nearby.

7) Windy Tickle (GkCc-1)

The set of site locales in Windy Tickle reported previously (Strong 1930: Fitzhugh 1978b: 65), was re-visited in order to map concentrations of deflated finds that might suggest changes in dwelling forms. Longhouse patterning was noted in several blowouts, but the considerable potential for further work here lies with excavations in undisturbed areas east of the site.

8) Devil's Thumb 1 (GlCc-1)

Three rectangular structures, each about 8-10 m long and 4 m wide and containing a central divider, were found on a small perched terrace above the Paleoeskimo levels at the bottom of a small cove west of Devil's Thumb. No excavations were made, and no diagnostic tools were found.

9) South Tikigakjuk Point 1 (GkCc-6)

Three small rectangular structures were found at this site, one of which (L2) was excavated entirely. The 10 by 4 m structure had two rooms, each with a large central hearth separated by a central divider, and an external cache pit. The high elevation (28 m asl), raw materials (quartz, quartzite, and Ramah chert), artifacts, and house form all suggest an early Maritime Archaic date. A charcoal-stained soil sample returned a date of 1370 +/- 60 BP (B-11088), but the sample was heavily contaminated by peat. A date in the 5000-5500 year range is considered probable based on beach level correlation to the 28 m high Windy Tickle A-12 site dated to 5125 +/- 95 BP (SI-1796).

10) Big Bay Point 1-5 (GkCd-3-7)

This site was known from earlier work to contain a number of boulder structures including Maritime Archaic burials. Our work consisted of mapping and testing a tent ring (L3) of possible Maritime Archaic affiliation and mapping a large group of conical cache pits at L4. Maritime Archaic, Pre-Dorset, and Saunders materials have been found at this site. L3 now seems to have been a Neoeskimo structure.

11) Iglosiatik Island 5 (HbCg-1)

A large Maritime Archaic site was found on the south side of the east-central beach pass on Iglosiatik Island. Although it appears large and potentially quite important in view of the finds at House Harbour (below), we did not have time to investigate this site.

12) House Harbour 1-3 (HbCg-2-4)

Surveys at the east end of Iglosiatik Island produced a large amount of Maritime Archaic material that appears to date to the middle phase of this tradition. Maritime Archaic materials were found widely scattered in blown out exposures, and numerous cobble pavements suggested the presence of a large burial gound. Time did not permit testing at these features, but they represent the largest concentration of such features known in the Nain area, and their investigation should have a high priority considering our very limited understanding of burial patterns at the time this site was probably occupied, ca. 5000-6000 BP.

13) Whale Island 3 South, 3 North (HdCg-44,45)

The large blown out upper beaches of this island, possibly one of the earliest Maritime Archaic sites in northern Labrador, produced evidence of numerous small early Maritime Archaic loci with tools and debitage, but no traces of structures. However, several large stone mounds, pits, and chambered structures in a boulderfield nearby suggest the presence of a variety of related features at this site. Some of these are among the highest and largest boulder constructions known in central and northern Labrador.

14) Skull Island 3 (HcCg-6)

This site, previously thought to contain three small rectangular structures similar to early Aillik types was found to have a fourth structure. In addition to mapping the site, we excavated Structure 1 without producing a single artifact or a piece of lithic debitage; nor were lithics found in any of the other three structures. These structures are now believed to have been used by early historic Neoeskimos who had large spring camps on this island.

15) Natsatuk Island 1 (HdCg-1)

Excavations were conducted at this large site during 1976 and earlier, before Maritime Archaic dwelling types became recognized. New work resulted in expanding former excavation areas, preparing an overall map with find clusters, and testpitting additional loci. This work confirmed the early Maritime Archaic attribution previously ascribed and produced points and a charcoal sample for radiometric dating. No evidence of dwelling structures or of other constructions was noticed, nor any convincing linearity of artifact and flake deposits; most find spots suggest small, discrete encampments by single family units.

16) Karl Oom Island 2, 3 (HdCg-38, 39)

Two previously identified sites were mapped and excavated at this location. At Karl Oom 2 a shallow rectangular 4 x 8 m two-segment depression at the top of a boulder beach 18 m above sea level above the bar on the west side of the island produced a large assemblage of slate, quartz, and Ramah chert flakes together with a few relatively undiagnostic tools. Karl Oom 3 contained a number of small boulder pithouses, cache pits, and boulder pavements (burials?). Although we were not able to measure the elevation of this site, it is in the 20-30 m range. Two boulder pits were excavated, one of which (S-2) produced a stemmed point of early Maritime Archaic form embedded in a charcoal deposit dated to 6080 +/- 380 BP (B-11002). This date provides us with the first radiometric dating for pithouse structures in Labrador. A three-segment rectangular structure from Aillik West has been dated to 5210 +/- 270 BP (B-5746).

17) Imilikuluk 5 HdCg-33)

This site, found in 1975, also contains a number of small segmented rectangular structures and other rock features. Four two-room structures were mapped. One (S-1) contained flakes of quartz, slate, grey chert, and Ramah chert, as well as an early type of stemmed point of Ramah chert and a transverse scraper of the same material.

18) Orton Island (HfCg-1)

A small possible Maritime Archaic component was found on a high beach in the southern harbour of this exposed but brilliantly jeweled island. Several constructions resembling known Maritime Archaic structures were found, including a boulder pavement with a depressed centre and a small cairn, but no direct evidence was noted.

19) 'Lone Tree' Cove 1 (HjCl-12)

Surface collections from the Okak site in 1978 produced an interesting early Maritime Archaic assemblage similar to that from Ballybrack Hill in Nain (Fitzhugh 1978b:74). We returned to determine whether a dwelling structure could be discerned from placed rocks or from the distribution of artifacts and lithic remains in the largely blown out site. Typically, early Maritime Archaic lithics were found to be contained in a 4 m wide band paralleling the front of the 16.5 m above sea level terrace, lying within a swale that seemed to have been cleared of larger surface rocks. These materials occured in clusters for a distance of 35 m, suggesting the usual pattern for longhouse structures. It is difficult however, to know if this structure is a single longhouse or a linear arrangement of several smaller structures set close together. If this should prove to be a single structure and if this typological dating is accurate, it would be the earliest example of a large structure in an early Maritime Archaic context.

20) Okak 2 (HjCl-2)

This controversial site, which contains a Pre-Dorset component as well, has been investigated by Steven Cox (1977:184) and Bryan Hood (personal communication). Cox recovered a Maritime Archaic lithic assemblage that was typologically similar to Rattlers Bight, including a plummet that was subsequently lost, but several radiocarbon dates have produced dates ca. 4800 BP. I secured a new dating sample from this site this year. At issue is whether a Rattlers Bight type assemblage existed in Labrador at this early time. Settlement data from Cox's excavation suggest the presence of multi-segmented longhouse structures here. Further work will have to be done to resolve the issue of the size of the structure and the nature of the assemblage if these early dates are confirmed.

Data from this described above greatly expand our information of the early Maritime Archaic period in central and northern Labrador. Preliminary analysis permits a number of general conclusions to be drawn. Perhaps most important is that dating control is emerging for the single and double room structure types. Estimates previously determined from geological uplift curves have now been given preliminary verification by the 6000 BP date from Karl Oom island. The association of this sample with the early form of stemmed point (Figure 6) in a small pithouse provides our first control for this type of structure. Similar early forms of stemmed points also were found with concave-edged endscrapers at Imilikuluk 5, linking the Karl Oom single room pithouses with this site, and thereby, with other small segmented rectangular structures and with Naksak complex artifact assemblages dated to 6000 BP in the Nain area (Fitzhugh 1978b).

The conclusion tentatively reached from the association of pithouses and small rectangular structures with Naksak materials raises the possibility that these structures types are contemporary in age, perhaps representing functional or seasonal dwelling variants of this early Maritime Archaic complex. However, pit structures have not been found at sites dating ca. 5500 BP like

Gull Arm and Nukasusutok 5 (Hood 1980). This may indicate that the pithouse structure type was abandoned as a dwelling form in the intervening period. This raises the question of whether or not pit structures were ever chronologically antecedent to rectangular structures. Perhaps their presence at high elevations merely reflects local geological settlement factors such as the existence of suitable boulderfields in which to build these structures, rather than age-dependent variables. This matter cannot be resolved until excavations are carried on at other high and potentially early pithouse locations.

Another interesting conclusion is that the early Maritime Archaic materials at Natsatuk 1 are distributed in small, spatially isolated, 2-4 m diameter clusters. These data are consistent with settlement pattern data from Whale Island, Allik 2, and other early sites, providing reinforcement for the longhouse developmental model even if its earliest phases are not characterized strictly by pithouse forms. A final conclusion drawn from excavations at a number of these early boulderfield and cobble beach structures is that such structures do, in fact, yield archaeological materials, including radiocarbon dating samples, although their recovery sometimes requires the use of unorthodox methods.

PALAEOESKIMO CULTURES

Research at Paleoeskimo sites in 1984 is presented here in abbreviated form as this was not a primary focus of my fieldwork but rather an offshoot of other projects. Twenty-three Paleoeskimo sites were visited. Nine of these sites had Pre-Dorset components, two had Groswater components, and fifteen had Dorset components. About half of these sites were newly discovered.

Early Palaeoeskimo (Pre-Dorset)

Of the nine Pre-Dorset sites visited, only three represent new finds, and of these, only one — Nuasornak 2 — is a significant discovery. This site is located at the northwestern end of Nuasornak Island, an island in the inner run west of Iglusuaktalialuk Island in Okak. A large number of well preserved early Palaeoeskimo structures occurs here on two different beach levels, the lower of which had structures in association with late Pre-Dorset implement types. The structural data from these dwellings and the fact that they occur at different elevation levels offer potential for refining the meagre information presently available on early Palaeoeskimo settlement types in general and on late Pre-Dorset complexes in particular. This site ranks with Iglusuaktalialuk 4, September Harbour 1, and Harp Isthmus as one of the largest and most important Pre-Dorset sites in the Nain-Okak region.

Other work on Pre-Dorset culture included mapping and controlled collecting from the large Iglu 4 site (Cox 1977) and excavation of a small structure at Henry Island 2 in Nain. Small Pre-Dorset components were also found at a number of other sites listed in Appendix I.

Groswater

Work at Groswater sites was limited to a brief reconnaissance of the Ticoralak Island beaches on which unidentified structures had been found in 1968. Although no diagnostic implements were found, the form of these mid-passage structures is clearly Palaeoeskimo, and they appear similar to Groswater structures known from Napatalik and Postville. Small conical cache pits were associated with the Ticoralak dwellings. It is quite likely that these structures were occupied by the same people who left the Groswater implements and slab pavements at the northwestern end of the island. Possibly a more complete settlement cycle could be demonstrated for Ticoralak, perhaps including both summer and winter habitations. In addition to these sites, Groswater sites at Napatalik and St. John's Harbour (Nain) were surveyed.

Late Palaeoeskimo (Dorset)

Most of the Palaeoeskimo sites worked this summer belonged to the Dorset period. In addition to recording and gathering small samples of materials from new sites at Multa, Devil's Thumb, House Harbour, Web Island, Orton Island, and Snyder Bay, our primary objectives were to localize soapstone, schist, and nephrite occurrences. For this reason, test pits were excavated at Napatalik North 1 (which produced a small faunal sample), and Skull Island 1 and Okak 3 were checked for nephrite and soapstone samples.

CONCLUSIONS

The 1984 season met all of its primary goals, of which the most important was acquisition of chronological and material culture data from early Maritime Archaic structure contexts. Excavations at high cobble beach and boulderfield sites rewarded us with charcoal and tools verifying the early chronological position of pithouse and small rectangular structures, and suggested the possibility that these two structure types may be seasonal or functional variants within a single settlement system. The excavation of three pit structures and four two-segment rectangular structures, and the discovery of a number of new sites with these early structures greatly augments our data for this period, providing a firmer anchor for the beginnings of the longhouse development sequence that follows for the next 2500 years.

Questions still remain as to settlement aspects of the earliest Maritime Archaic components, such as Hound Pond 2 in Groswater Bay and Whale Island in Nain (Fitzhugh 1978b: 69,72). Evidence of structures has not been found at these sites. However, the non-linear and highly localized nature of deposits at these sites suggests that dwelling units here also were similar to the single or double room structures known from the upper Aillik Beach, and from various pithouse villages such as those at Aillik 3 and west Pompey Island. These new data, however, allow us to proceed with analysis of the larger Maritime Archaic development sequence with confidence that the Aillik model is, in some modest degree, a representation of prehistoric reality. Dare we ask for more?

ACKNOWLEDGMENTS

One of the more important accomplishments was in being able to conduct a field season this year on a very limited budget by pooling resources and sharing field responsibilities. This was made possible in part by the generous donation of time and services by a number a number of Labrador people, but especially by Robin Goodfellow, Lawrence Jackson, and by the participation of Mark Saksagiak and Henoch Townley in the Nain survey work. I also must single

out the very great assistance provided us in Goose Bay by Caroline Maybee, who stored our equipment, by Dorothy King and Robin Goodfellow who hosted us during the grubby preparation days, and by Tony Williamson, Sam Broomfield, Steve and Ralph Tooktoshina, George Shiwak, Enos Baggs, the Nain Baikies and many others who provided assistance of various kinds during the course of the summer. I also appreciate the assistance provided to the project from Mr. H. King Cummings, the Smithsonian's Fluid Research Grant program, the Government of Newfoundland and Labrador Historic Resources Division, who also provided the research permit, and the support given to the effort by Chris Nagle, Stan Leaming, Susan Kaplan, Steven Cox, and Stephen Loring, and our crew members Ben Fitzhugh, Lynne Fitzhugh, Jeremy Koeff, and Roger Kvist. I also wish to thank Dosia Laeyendecker and Catherine Cockshutt Smith for their careful processing and cataloguing of the samples, collections, and fieldnotes, and to Aron Crowell who supervised most of this work and who has made major strides in the statistical analysis of longhouse data.

REFERENCES CITED

Cox, Steven L.

1977 Prehistoric settlement and Culture Change at Okak, Labrador. Unpublished Ph.D. Dissertation, Department of Anthropology, Harvard University.

Fitzhugh, William W.

1972 Environmental Archeology and Cultural Systems in Hamilton Inlet, Labrador. Smithsonian Contributions to Anthropology 16.

1978a Winter Cove and the Point Revenge occupation of the central Labrador Coast. Arctic Anthropology 15(2):146-174.

1978b Maritime Archaic cultures of the Central and Northern Labrador Coast. Arctic Anthropology 15(2):61-95.

1984 Residence Pattern Development in the Labrador Maritime Archaic. In: Archaeology in Newfoundland and Labrador 1983, edited by Jane Sproull Thomson and Callum Thomson, Annual Report 4: 6-47, Historic Resources Division, Government of Newfoundland and Labrador.

Hood, Bryan

1980 The Maritime Archaic Occupation of Nukasusutok Island, Nain, Labrador. Unpublished M.A. thesis, Trent University, Peterborough, Ontario.

Kaplan, Susan A.

1983 Economic and Social Change in Labrador Neo-eskimo Culture. Unpublished Ph.D. dissertation. Department of Anthropology, Bryn Mawr college.

1985 European Goods and Socio-economic Change in Early Eskimo Society. In: Cultures in Contact: The Impact of European Societies on Native Institutions in Eastern North America, ed. by William W. Fitzhugh. Anthropological Society of Washington Series. Smithsonian Institution Press (in press), Washington.

Nagle, Christopher

1978 Indian Occupations of the Intermediate Period on the Central Labrador Coast: a Preliminary Synthesis. Arctic Anthropology 15(2):119-145.

Strong, William Duncan

1930 A Stone Culture from Labrador and its Relation to the Eskimo-like Cultures of the Northeast. American Anthropologist 32:126-144.

Tuck, James A.

1975 Prehistory of Saglek Bay, Labrador: Archaic and Palaeo-Eskimo Occupations. National Museum of Man, Mercury Series, Archaeological Survey of Canada Paper 32. Ottawa.

Appendix I. Sites Visited in 1984

New Sites

Black Island 5	GcBk-18	Neoeskimo spring campsite
Napakataktalik Island 1	GjCb-05	Neoeskimo
Multa Island 1	GkCb-01	Labrador Eskimo, Dorset, MA
Multa Island 2	GkCb-02	Labrador Eskimo, MA
Multa Island North	GkCb-03	Labrador Eskimo
South Tikigakjuk Point 1	GkCc-06	Early Maritime Archaic
Devil's Thumb 1	GlCc-01	Labrador Eskimo, Dorset, MA
Iglosiatik Island 5	HbCg-01	Maritime Archaic
House Harbour 1	HbCg-02	Maritime Archaic
House Harbour 2	HbCg-03	Groswater Dorset, Dorset
House Harbour 3	HbCg-04	Labrador Eskimo
Skull Island 14	HcCg-19	Maritime Archaic
Skull Island 15	HcCg-20	Maritimr Archaic (?)
Club Island 3	HdCh-35	Neoeskimo
Web Island 1	HdCh-36	Neoeskimo, Dorset
Akulaitualuk Island 1	HeCh-12	Unknown
Gang Island 1	HeCh-13	Thule
Orton Island 1	HfCg-01	Dorset, Pre-Dorset, MA(?)
Orton Island 2	HfCg-02	Labrador Eskimo
Snyder Bay Island 1	HgCk-01	Neoeskimo, Dorset
Iglusuaktalialuk Island 8	HhCj-09	Labrador Eskimo
Nuasornak 2	HiCl-01	Early Paleoeskimo (PD)
Nutak Soapstone outcrop	HjCk-10	Geological site
Moores Island 2	HjCk-11	Labrador Eskimo

Revisited sites

Eskimo Island 1,2,3,4	GaBp-01-04	Neoeskimo
West Pompey Island	GbBm-02	Early Maritime Archaic
Ticoralak Island 1	GbBn-01	Groswater Dorset
Black Island 4	GcBk-17	Labrador Eskimo
Tilt Cove Point 1	GeBn-01	Labrador Eskimo
Adlatok Bay ss crop	GgCd-01	Neoeskimo, Settler
Aillik 2	GhBt-03	Maritime Archaic
Anniowaktok	GiCa-02	Labrador Eskimo
Hettasch Site	GjCb-01	Dorset
Napatalik North 1	GjCc-06	Dorset
Napatalik North 3	GjCc-07	Neoeskimo
Semiak Island ss outcrop	GjCc-14	Neoeskimo, Dorset(?)
Windy Tickle sites	GkCc-01	Maritime Archaic
Big Bay Point 1,2,3,4,5	GkCd-03-07	Saunders, Pre-Dorset, MA
Iglosiatik Island 1	HbCh-01	Neoeskimo
Skull Island 1	HcCg-04	Neoeskimo, Dorset
Skull Island 3	HcCg-06	Maritime Archaic
Skull Island 6	HcCg-09	Thule, Dorset, Pre-Dorset
Natsatuk Island 1	HdCg-01	Early Maritime Archaic
Imilikuluk Island 5	HdCg-33	Early Maritime Archaic
Karl Oom Island 2	HdCg-38	Early Maritime Archaic
Karl Oom Island 3	HdCg-39	Early Maritime Archaic
Whale Island 3s, 3n	HdCg-44,45	Early Maritme Archaic
Henry Island 1	HdCh- 30	Dorset
Henry Island 2	HdCh-31	Pre-Dorset
Oakes Bay 1	HeCg-08	Neoeskimo
St. John's Harbour 2	HeCi-27	Maritime Archaic
St. John's Harbour 5	HeCi-30	Groswater Dorset
Iglusuaktalialuk Island 4	HhCj-04	Pre-Dorset
Iluvektalik 1	HhCk-01	Early Dorset
Iluvektalik 2	HhCk-02	Labrador Eskimo, Dorset

Nuasornak Island 1	HhCk-05	Neoeskimo
Nutak 1	HiCk-01	Settler, Saunders
Nutak 3	HiCk-03	Dorset, Pre-Dorset
Moores Island 1	HjCk-03	Neoeskimo, Dorset, Saunders
Moores Island ss outcrop	HjCk-09	Geological site
Okak 1	HjCl-01	Neoeskimo, Dorset
Okak 2	HjCl-02	Pre-Dorset, Maritime Archaic
Okak 3	HjCl-03	Dorset
'Lone Tree' Cove 1	HjCl-12	Maritime Archaic
Green Island 1	HkCk-01	Thule, Neoeskimo

Figure 1

Pithouse village at top of West Pompey Island 1 (GbBm-2).

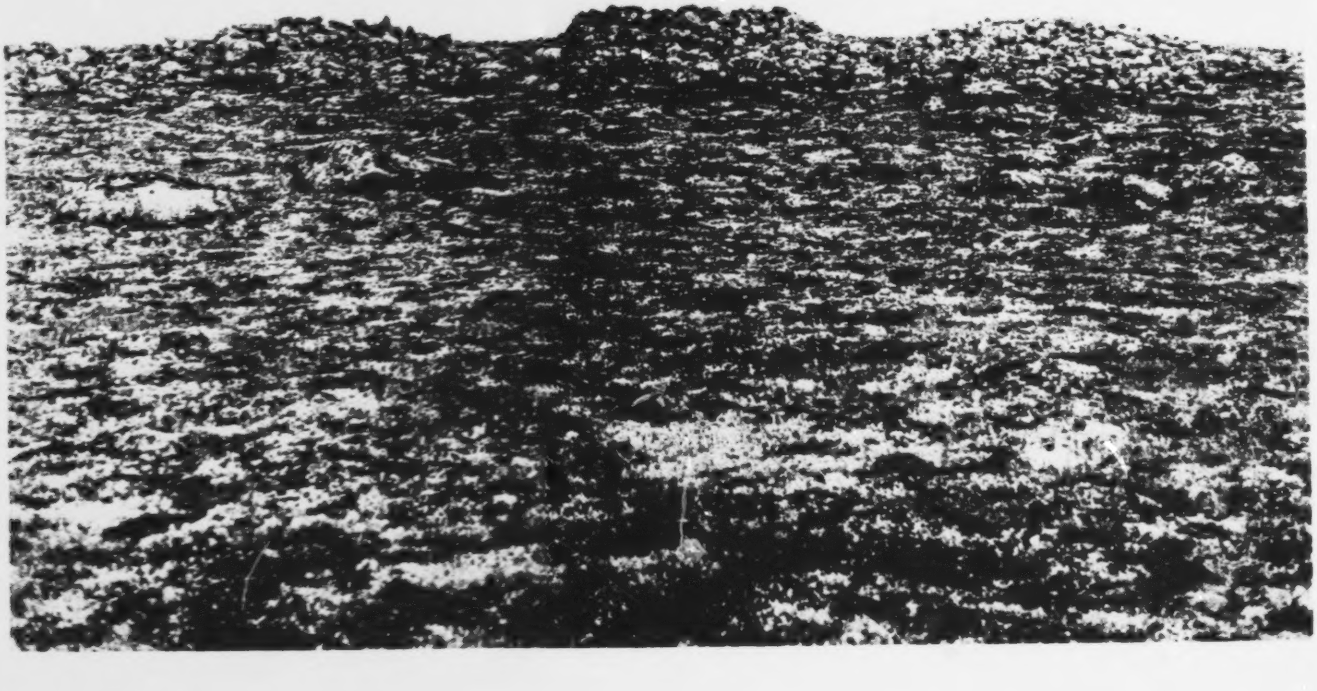


Figure 2

West Pompey Island 1 (GbBm-2) pithouse (structure 1) interior. Roger Kvist holding imaginary meter stick. View to north.

Figure 3

Pithouse structure at beach crest at Napatalik North 5 (GjCc-11). Dimensions are 4 by 5 meters.

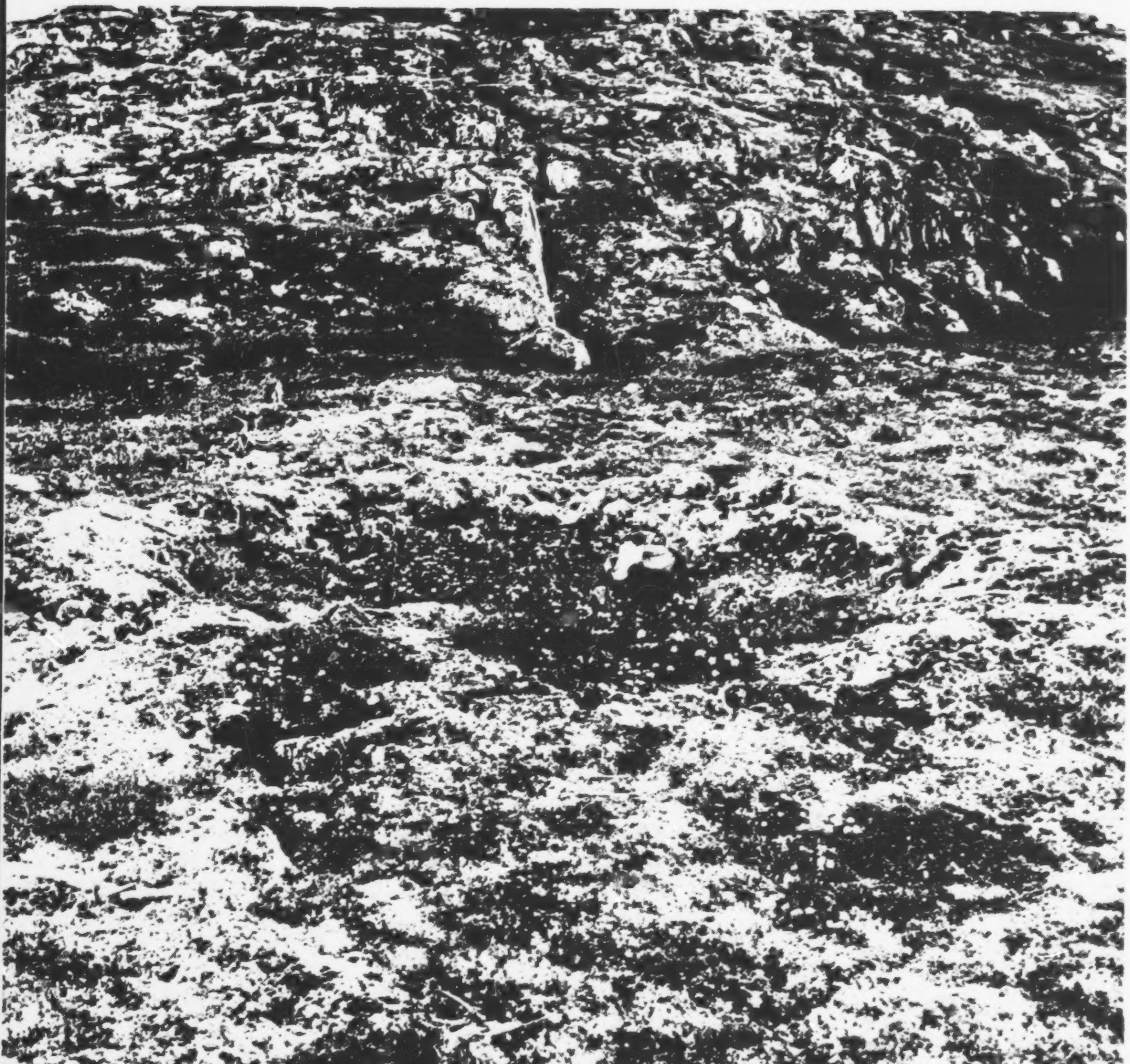


Figure 4

Ben Fitzhugh mapping one of group of boulder pavements, probably a burial, at House Harbour 1 (L4), (HbCg-2) Middle Maritime Archaic site, Iglosiatik Island.

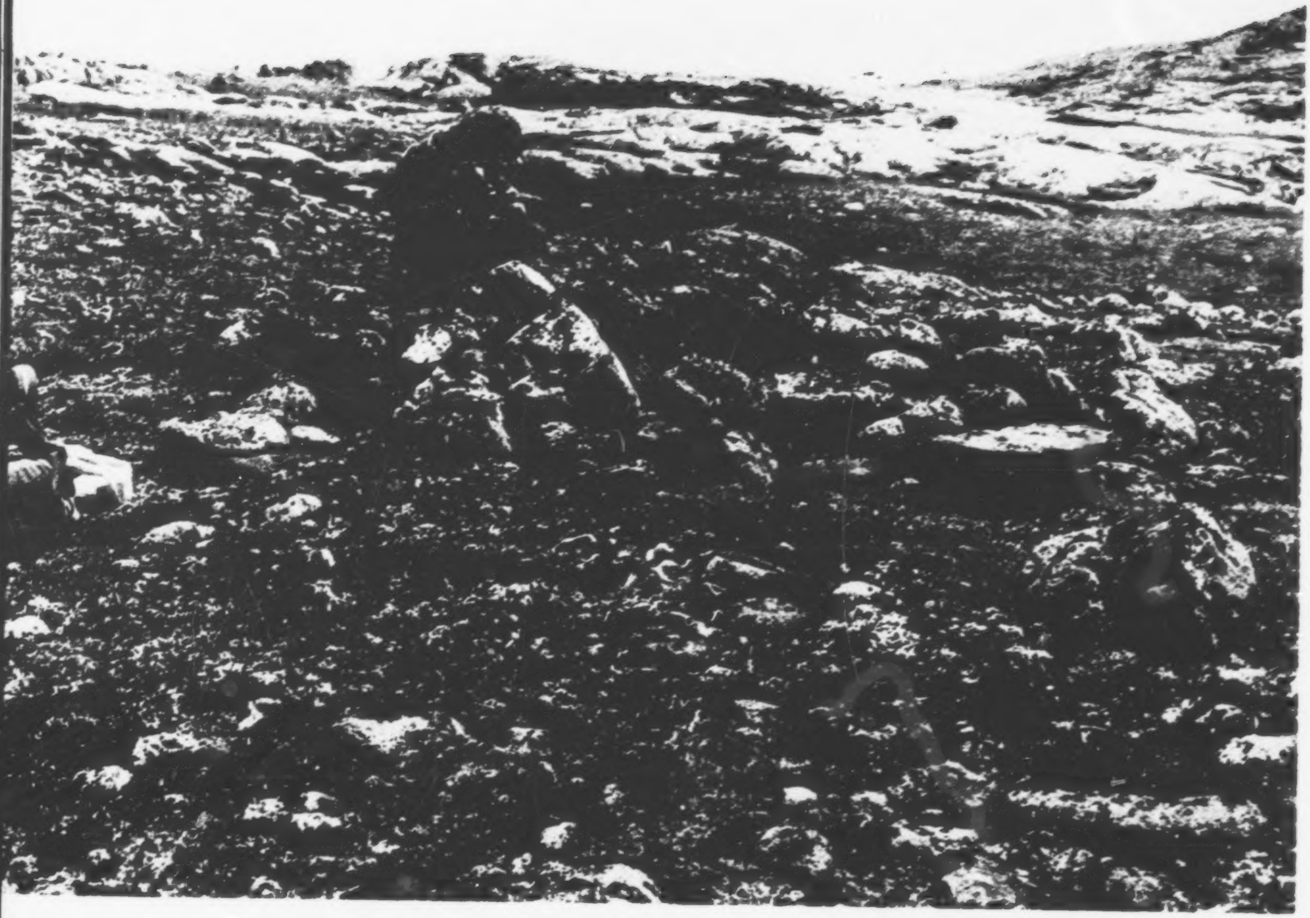


Figure 5

Mark Saksagiak (left) and Henoch Townley (right) sitting on far walls of rectangular two-segment structure at Karl Oom 2 (HdCg-38). Large black rock is in center of structure whose inner floor dimensions measure 4 by 6 meters. Considerable amounts of slate and Ramah chert debitage were found upon removing two or three level of cobbles.

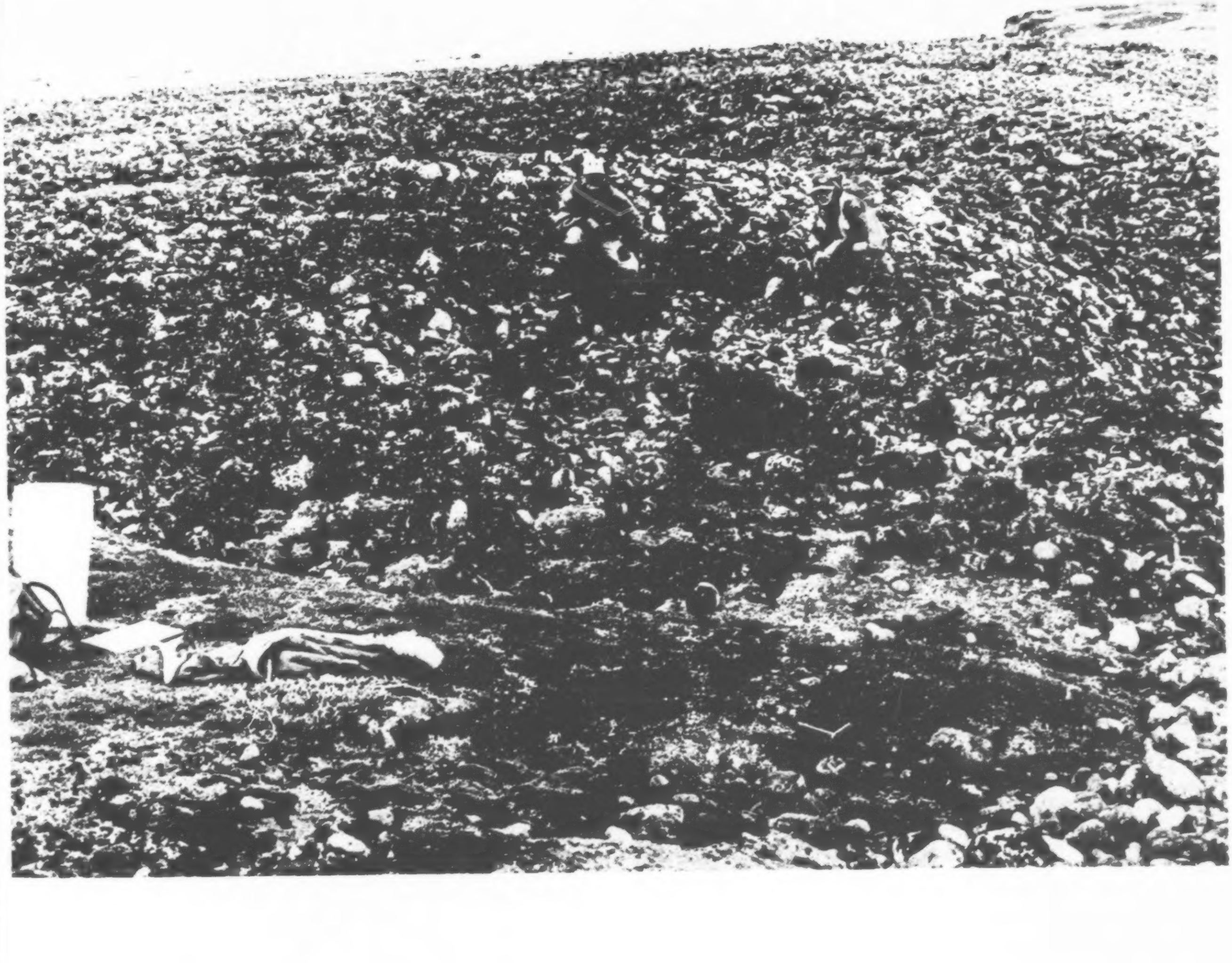


Figure 6

Stone implements from early Maritime Archaic sites in the Nain area. Left to right, top to bottom: points—Karl Oom 3 (HdCg-39:1), Natsatuk 1 (HdCg-1:302), Imilikuluk 5 (HdCg-33:15); transverse end scrapers from Natsatuk 1 and Imilikuluk 5 (HdCg-1:288; HdCg-33:17); asymmetric notched bifacial knife from Natsatuk 1 (HdCg-1:276). All are made from Ramah chert except for the Natsatuk scraper, which is grey chert.

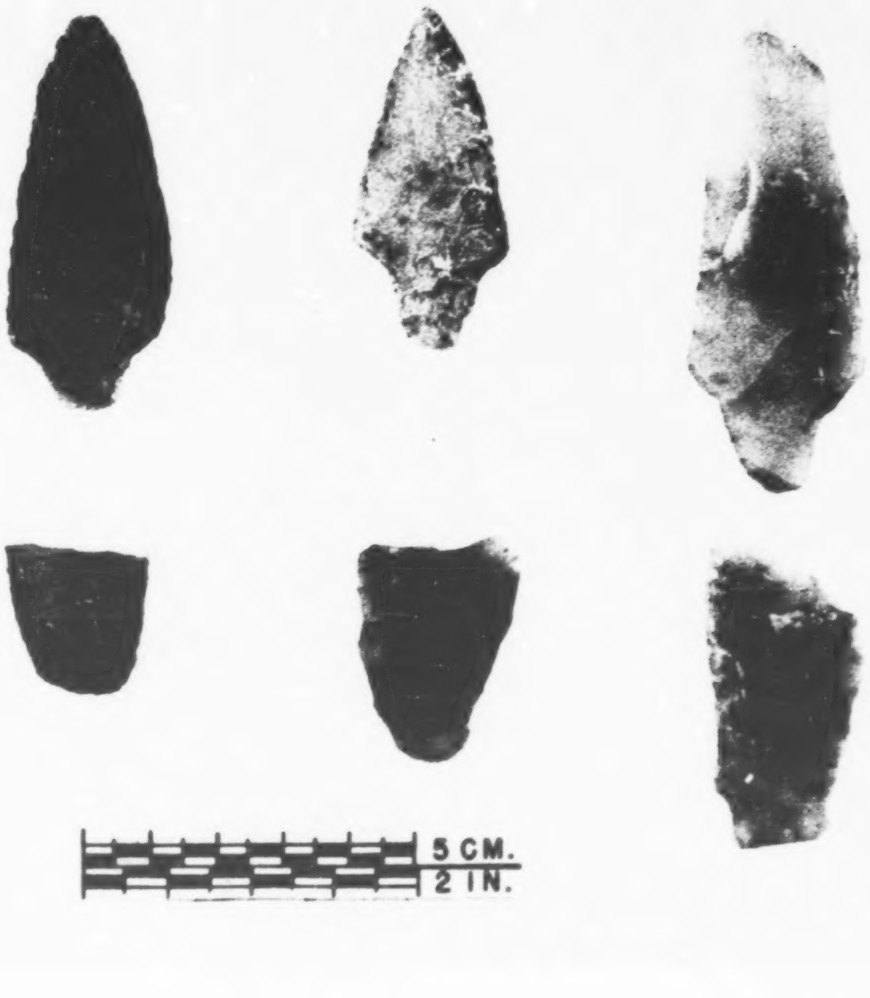
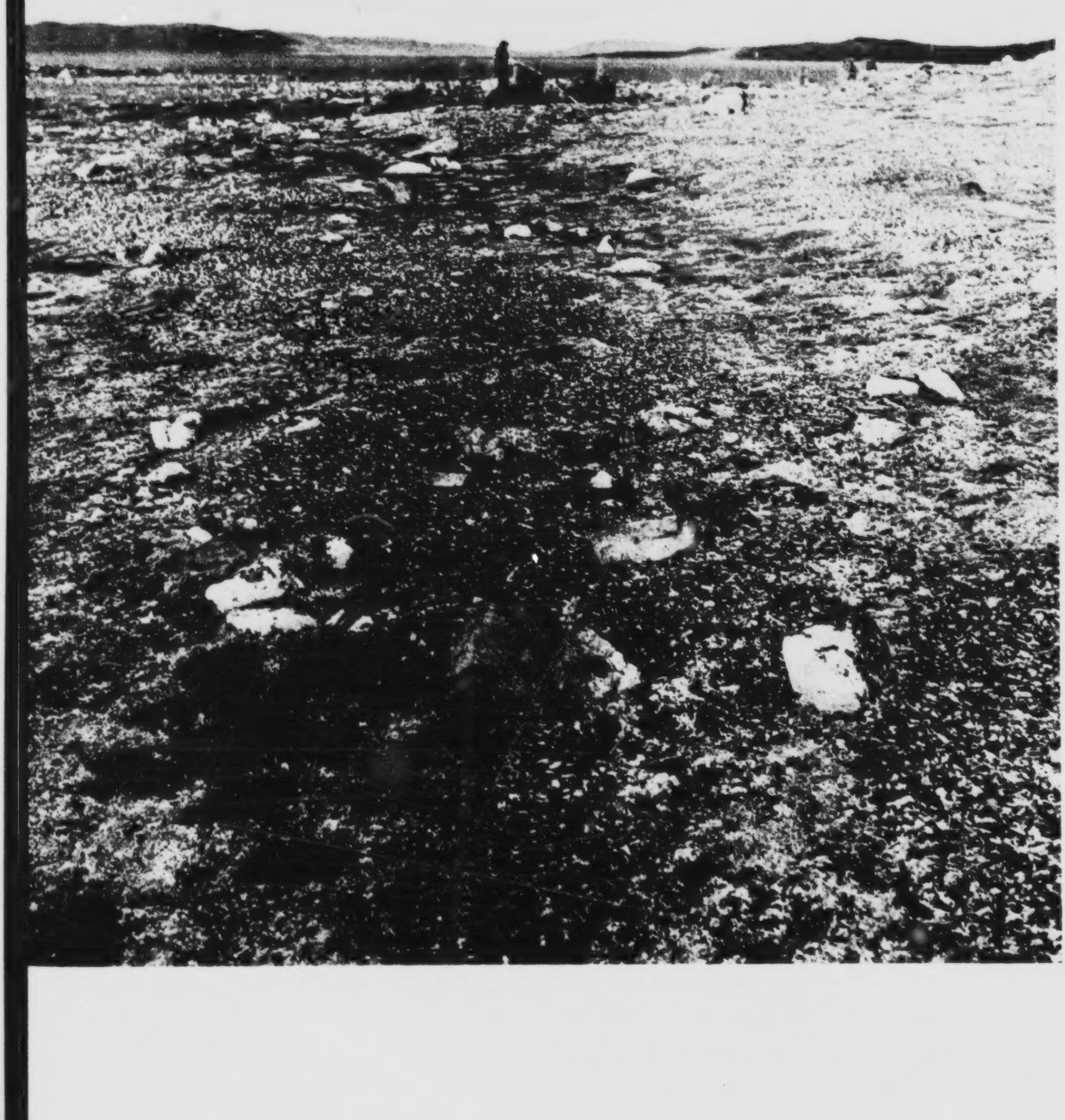

5 CM.
2 IN.

Figure 7

Nuasornak 2 Pre-Dorset site, (HiCl-1) lower level structures, view to northeast.



LITHIC RAW MATERIALS RESOURCE STUDIES IN NEWFOUNDLAND AND LABRADOR:

A PROGRESS REPORT

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INTRODUCTION

Interest in identifying the sources of stone raw materials used by prehistoric populations has been growing rapidly over the past decade or so, given the potential that such information may have for establishing past spheres of social interaction and communications, tracing population movements, and delineating commodity flow and exchange among various groups and even between different societies. Within Labrador, the initial studies of Gramly (1978) and Lazenby (1980) on cherts illustrate this concern, as does other work by Tuck (1978) and Simpson (1984) for insular Newfoundland. Wright (1982) has presented a wider-ranging dicussion of the distribution of archaeological materials throughout the Maritimes, including the movement of Ramah chert between Newfoundland and Labrador during different time periods.

More recently, I have been attempting to integrate the results of provenience studies for several kinds of lithic materials utilized by Dorset Palaeo-Eskimo inhabitants within the province. The goal of this research is to reconstruct regional strategies of raw materials provisioning, together with the nature and scope of interregional communications and exchange - between Labrador and Newfoundland populations, as well as between Labrador and northern Quebec/Central Arctic groups - that is suggested by my data (Nagle 1984, in press).

Concomitantly, a variety of ethnographic and/or economic models have appeared in the anthropological literature, each of which has been advanced to explain, in theory, the patterning observed in the spatial distributions of archaeological lithic remains (see, for example, Binford 1979; Binford and O'Connell 1984; Gould 1980). Eventual resolution of which model or models is most appropiate for explication in different instances will depend on controlled tests of each on data sets in which both archaeological and geologic universes are known well.

Perhaps surprisingly, the sizable archaeological data base of the Newfoundland and Labrador region, together with its growing inventory of geologic resources, can provide one of the better test laboratories for evaluations of competing models of lithic raw materials procurement and distribution. The reasons for this are partly that our knowledge of the archaeological record for the region is truly regional in scope, but also because the spatial patterning of the locations of lithic resources between Newfoundland and Labrador vary in significant ways (for example, high-quality chert sources are rare and widely separated in Labrador but are more common and evenly dispersed in Newfoundland). Such systematic variation between the two regions allows controlled comparison tests to be made of the lithic distribitional patterns within cultural periods common to the archaeological records of both. The linear nature of the coastal Labrador environment, which tended to constrain movement to only two directions in space, is another factor contributing to its suitability for tests of past lithic utilization. Possibly the western and southern Newfoundland coastlines will be shown to share this feature as well.

Most research to date on modes of stone procurement and distribution, and on the implications of these patterns for cultural interaction and exchange, has been carried out on Dorset culture sites in the province. There is, however, every reason to expect that similar insights could be gained if this kind of investigation were extended to other periods of the Paleo-Eskimo and Indian sequences of the region - the Pre-Dorset and Groswater Paleo-Eskimo phases, and Maritime Archaic and other, later Indian traditions.

With these introductory remarks as a backdrop, the purpose of this report is to provide a concise synopsis of progress made within the last year in the area of lithic raw materials resource studies in the province of Newfoundland and Labrador, a dicussion which includes the results not only of geologic and archaeological surveys conducted during the 1984 season, but also of ancillary laboratory studies.

FIELD WORK OBJECTIVES

Field work in the province during the past summer was principally directed at two primary objectives. The first of these was to conduct a preliminary survey of some of the sedimentary rock sequences along the western Newfoundland coast to locate and sample cherts known to occur in the deposits there. My aims here are to begin to determine where exploitable deposits of cherts are found, and to initiate an analytical program to assess the visual, mineralogical, and geochemical differences within and between individual outcrops. I have been aided in this endeavour by a modest amount of locational information on chert sources in western Newfoundland extracted from the geologic literature covering the area. I intend to compile this information and publish it in the future, perhaps in next year's Annual Report. Geologic literature will not be systematically cited here, however.

The second major goal of the season was to inaugurate a search for sources of nephritic jade along the Labrador coast. Nephrite is the major lithic material utilized by the Dorset inhabitants of Labrador for which no sources are presently known there. I was fortunate in being able to enlist the assistance of former GSC geologist Stan Leaming for this part of the field work. Stan, author of the monograph, Jade in Canada (1978), is an authority on nephrite in Canada, and has spent many hours in the field in British Columbia in search of jade deposits.

Subsidiary aims, to be pursued as time and circumstances permitted, consisted of: 1) revisiting several soapstone outcrops in central Labrador in order to increase the number of raw material samples from them; 2) keeping an eye out for new soapstone sources; 3) testing previously discovered Dorset sites around Hopedale to augment extant tool and debitage collections from the area; 4) to assist other *Tunuyak* participants in related ongoing field projects (see Fitzhugh, Kaplan, this volume).

NARRATIVE

Newfoundland Reconnaissance

After a hot night's passage on the ferry from Nova Scotia, the Newfoundland field party, consisting of the author, Steven and Ruth Cox, disembarked on July 8 at Port aux Basques and headed through the early morning fog to have a look at the Cape Ray Light Dorset site nearby. Our goal was to check on the continuing integrity of the site since Linnamae's excavations there (Linnamae 1975), and to collect a representative sample of tools and debitage exposed on the surface or along the shoreline. After a productive two hours at the site, we departed for the Port-au-Port Peninsula, 125 km to the north.

Between July 8 and 9 work concentrated on the north side of the Port-au-Port Peninsula in order to locate the two chert outcrops reported by Simpson (1984: 130, Figure 1; see also James and Stevens 1982: 26, 28), and to investigate other reported sources in the area. Simpson's first outcrop is located along the shoreline of West Bay, immediately below Hink's store on Route 463 (see Figure 1). We spent a total of about one day at this locality, reconnoitering the outcrop, collecting samples, and photographing the area. Following this, several locations along the shore of West Bay between Hink's store and the community of Lourdes were surveyed for chert deposits, but with little success.

In the afternoon of July 9, the party broke camp and drove to the Aguathuna stone quarry, situated 2 km west of The Gravels on the north coast of the Peninsula. Our objective there was to locate reported "chert nodules" (James and Stevens 1982: 24) at the top of the St. George Group dolomites on the quarry face. The next stop of the day was on the eastern side of East Bay, where Simpson's other seam of high quality chert was reported to lie along the shoreline. Parking the car at the oil storage tanks, we walked north along the shore toward Black Point. Small pieces and nodules of chert occur here and there on the beach, steadily increasing in frequency as one nears Black Point. The outcrop itself is located just to the south of the point, where we spent several hours inspecting material and collecting samples.

On July 10, we headed north toward Gros Morne National Park, driving into Woody Point where we boarded the ferry to cross Bonne Bay for Norris Point. In Rocky Harbour, our permit to collect geologic samples in the park was secured, and a new camp established. Between July 10 and 12, we were able to investigate more than six different oupcrop localities for evidence of chert deposits between Rocky Harbour and St. Paul's Inlet, mostly right on the coastline. The results of the reconnaissance are described below. We were not able to visit outcrops previously reported on the Cow Head Peninsula (Kindle and Whittington 1958; Tuck 1978; Auger 1982), only a few kilometers to the north of this year's area.

Labrador Reconnaissance

Following our work in Newfoundland, Steven Cox and I flew north from Deer Lake to Goose Bay on July 13, while Ruth Cox motored lithic samples back to the United States. We met up with Stan Leaming, the third arm of our Labrador crew, in Goose Bay and, leaving the Tunuyak group to finish final installation of the boat's fuel pump, headed on to Hopedale via floatplane. After a day and a half of painting, caulking, and fiberglassing on the Hopedale dock, we had a freighter canoe ready for service.

Six days were spent in the vicinity of Hopedale, between Adlatok Bay and Napatalik Island, investigating ultramafic bodies for signs of nephrite mineralization, revisiting two soapstone outcrops in the area, and testing the single semi-subterranean house at the Hettasch Dorset site (GjCb-01), found in 1975 (FItzhugh 1976: 127-128). The Tunuyak crew eventually joined us on the evening of July 22, after which they assisted us in relocating our tent camp to Napatalik Island. Regretfully, we had to spend the next three days aboard her, in a harbour at Multa Island, sans sleeping bags or other gear, due to a severe nor'easter at the time, while our camp weathered the storm on its own. On July 26, we were finally able to commence two days of test excavations at the Middle Dorset site of Napatalik North 1 (GjCc-06), another semi-subterranean house site in the Hopedale area from which a small surface and test-pit collection had been obtained in 1973 (Fitzhugh 1973).

On July 27 we departed Napatalik Island for other work around Davis Inlet and the Nain area. By August 1 we were enroute to Okak, where we remained for six days. As around Hopedale, our time was spent inspecting ultramafic intrusions for signs of nephrite, revisiting several soapstone outcrops, and in testing and mapping selected archaeological sites. On August 7, we returned to Nain, where the next eight days were devoted to sundry archaeological duties. During this interval, I had the opportunity to collect a representative sample of lithic materials from Skull Island 1 (HcCg-04), a mound of semi-subterranean houses, thought to be Dorset, in which substantial quantities of nephrite debitage had been found in 1980 (Fitzhugh 1981:37). The field season was concluded on August 14.

SYNOPSIS OF FIELD AND LABORATORY RESULTS

Newfoundland Cherts - Field Studies

As a result of our brief reconnaissance, we were able to locate and sample six chert outcrop locales. Two of these had previously been reported by Simpson (1984). I will sidestep for the time being, the issue of whether or not each of these locales should be regarded as "discrete" outcrops, or whether a single locale may be said to consist of more than one "discrete" oupcrop. Each locality is provisionally described as a single unit below.

Two high-quality chert localities were visited on the Port-au-Port Peninsula. The first, at Hink's Store, outcrops immediately above the beach sand on the southern shore of West Bay for about 75 m, attaining a maximum thickness of about 6 m (Figure 3). The beach is littered with irregular cobbles of chert from fist-size up to nearly 2 m in maximum dimension. Greasy grey and green colors predominate, although some dark brown material resembling that present at the Factory Cove site on Cow Head (Auger 1982) was also seen. Virtually no reddish or brownish shades of material were found, although these colours sometimes occur as mottling within grey-green specimens. Two possible quarry pits, or adits, measuring about 1 by 1 m, were spotted by Cox at beach level (Plate 2).

The second Port-au-Port chert locality visited is situated on the eastern side of East Bay, just south of chert lying on the beach in front of the actual outcrop, much of which occurs in large chunks over 30 cm in maximum dimension. The outcrop itself is approximately the same size as that at Hink's Store. Unlike the West Bay deposit, however, the colours of cherts (and the beach sediments themselves) on the East Bay beach are chiefly reddish-brown and green, although not much red-brown material was seen in the outcrop. Little truly grey chert was found here.

We were unable to locate any knapping grade "chert nodules" in the dolomites at the Aguathuna stone quarry. We did find a zone of thin (2-3 cm) cherty stringers at the top of the dolomites, but the material was too badly fractured to be utilized for stone tools.

Four chert outcrop localities were discovered within the confines of Gros Morne National Park. The first of these is located at the base of the cliffs beneath the Lobster Cove Head lighthouse in Rocky Harbour, on the northern side of the entrance to Bonne Bay. Access to the outcrop lies down either of two paths which lead to the shoreline from the lighthouse. There are two seams of chert along the shore, the smaller of which we did not inspect carefully. The larger seam consists of bedded layers, each between 2-8 cm in thickness, protruding a distance of about 6 to 10 m from the cliffbase into the water at low tide. Its total thickness is around 6 m. Another part of this same seam is exposed 20 m offshore, where it would be completely covered at high tide. (Incidentally, the best time to visit this locality [and most of the others we surveyed] is at low tide, both for reasons of access and maximal exposure of the outcrop. The beaches themselves are frequently covered by sand or gravel, while outcrops are uncovered at low water.)

Chert at Lobster Cove Head is almost entirely grey in colour, with black banding, although some (rare) pieces of greyish or greenish material can be found without the banding. This colouration is reminiscent of black-banded grey chert which occurs at Cow Head, an understandable similarity since the cherts at both localities are found in the same Cow Head Group sedimentary unit.

The second chert outcrop within Gros Morne is located on the northern side of Green Point, nine kilometres north of Rocky Harbour, where two or three seams of medium green chert were found interbedded with green and black shales. Most of the material appears not to be of very good quality, since the seams are thin, of uneven thickness, incompletely silicified, and somewhat fractured. The chert occurs in vertical-standing beds, varying from 2 to 12 cm in thickness, in small exposures along the shoreline. Individual beds are not always consistent in thickness, tending to lense in and out. Even the 12 cm thick seams are generally parted along 2 cm bedding planes.

The third chert locality is situated at Broom Point, another 19 km north of Green Point. There we found two, thin (2-8 cm thick) seams of slightly lustrous, light brown chert on the northern side of the point. Chert from one of the beds was found to be highly fractured internally, while that from the other was generally free of fracturing and easily freed from its limestone matrix.

While in the vicinity of Broom Point, we surveyed the shoreline south from there to the mouth of the stream that drains Western Brook Pond, a distance of about 1 km. Although no chert outcrops were encountered along this stretch, nor chert in the fluvial deposits at the mouth of Western Brook, we did find a single archaeological site along the shore. Located on a grassy terrace just back from the point of land that marks the northwest entrance of Western Brook in to the ocean, a number of chert flakes were found eroding from the lip of the terrace, a level area approximately 100 by 100 m in extent. No tools were seen which could have given an indication of the cultural affiliation of the site, and no collection was attempted.

The fourth chert outcrop locality within the confines of Gros Morne Park was found on the northern shore of the Inner Tickle at St. Paul's Inlet. There we encountered two in-situ deposits of material along the beach east of the Route 430 bridge spanning the Tickle. The first seam consists of two or three bedded layers, totalling about 10 cm in thickness, that is generally a light bluish-black in colour with white speckles. The second, located over .5 km farther along the shore, is nearly 25 cm in thickness, madium grey in colour, but quite fractured and exposed for only a metre or so. The entire area deserves much more attention, since we found quite a variety of different coloured and textured cherts along the beach which were not represented in the two outcrops, and because the disposition of the rock strata in the area suggests that outcrops on the south shore of the Inlet can also be expected to yield chert deposits.

In summary, we were able to survey a number of different rock outcrops in Western Newfoundland for evidence of chert deposits in a relatively short amount of time, and to record four new source locales. We gained quite a bit of experience in terms of the kinds of terrain to be encountered, recognizing and documenting outcrops, and of the variation in chert types to be expected in the region. In comparison to coastal Labrador, the chert resources of western Newfoundland appear to be vastly more common and accessible, a pattern that probably influenced greatly past modes of procurement of this lithic material by prehistoric groups there. It is also clear that much more work is needed before we will be able to make definitive statements about the sources of particular stone types found in archaeological sites from insular Newfoundland and along the southern and central Labrador coast.

Newfoundland Cherts - Laboratory Work

Laboratory analysis of Newfoundland chert materials has been focussed on two distinct, yet partially interrelated problems. The first of these is concerned with the description and characterization of cherts from different outcrops in western and northern Newfoundland, with the ultimate goal of establishing features which can serve to discriminate not only among these sources, but between them and those of Labrador and Quebec. The second is directed at determining whether or not Groswater and later Paleo-Eskimo groups heat-treated Newfoundland cherts prior to flaking them into finished tools. Since oxidizing methods of heat-treatment have been shown frequently to produce substantial colour and texture changes in chert (e.g., Collins and Fenwick 1974: Rick and Chappell 1983), we need to know if archaeological specimens have been so altered before any visual criteria , such as colour and lustre, can be employed to assist in establishing their original sources.

Eight petrographic thin-sections of cherts sampled during the 1984 season have been prepared, in order to compare these with existing slides of materials from both Newfoundland and Labrador. All thin-sections examined to date, of western Newfoundland cherts from deep-water, Ordovician sedimentery rocks, contain varying numbers of radiolarian fossils and sponge spicules (Figure 4), which distinguish Newfoundland cherts from those occuring in Labrador (Nagle, in press). Further study of grain sizes, rock fabric, fossils, and accessory minerals in the sections is underway.

Investigation of the possible heat-treatment of Newfoundland cherts by prehistoric knappers is being approached along three avenues, using an archaeological piece from the Postville Groswater site (GfBw-04) in Labrador as a test specimen. The artifact is made of a lustrous, mottled green-brown chert; a thin-section of the piece contains abundant radiolaria and dolomite rhombs, indicating a likely Newfoundland origin. Scanning electron microscope (SEM) photos of freshly fractured surfaces of the artifact and western Newfoundland outcrop samples are being compared for differences in lustre, one characteristic of heat-treatment (Olausson and Larsson 1982). Preliminary results show that the artifact is significantly more lustrous than any raw chert surface sampled to date, suggesting that it may have been heat-treated. Electron spin resonance (ESR) spectroscopy (Robins, et al. 1978) and thermoluminescent (TL) measurements (Melcher and Zimmerman 1977) are also being conducted on the same samples in order to provide additional lines of evidence bearing on this question. No results from these latter tests are available as yet.

Nephrite Jade - Field Studies

Jade is a generic noun, applied to two completely different mineral aggregates — jadeite and nephrite. In Labrador, archaeological specimens of jade occur predominantly during the late Paleo-Eskimo period (Groswater through Late Dorset), although it was also occasionally used during Thule and later Neo-Eskimo times. Mineralogical analyses (see below) have demonstrated that probably all archaeological jade in Labrador is of the nephrite variety. Unfortunately, only two sources of nephrite jade are known in the Eastern Arctic, both located in close proximity to one another on the northern tip of the island of Newfoundalnd (Robert Stevens, personal communication; Stan Leaming, personal communication).

Mineralogically, nephrite is the term used to describe the massive, compact variety in the solid solution series of tremolite-actinolite-ferroactinolite of the amphibole family of minerals (Deer, Howie, and Zussman 1966:163-166; Leaming 1978, 1985; Wooley 1983). Chemically, it is a hydrous calcium magnesium silicate with variable amounts of ferrous iron. As the iron content increases, its colour changes from grey to dark green.

Nephrite is a metamorphic mineral that may form in either of two geologic environments (Leaming 1985). Its most common genesis occurs through the metasomatic alternation of serpentine minerals and ultramafic rocks, such as has occured in the western cordillera of North America, Siberia, and New Zealand. The second mode of its formation is the regional metamorphism of silicious dolomites, which produces a tremolite-carbonate rock. The best example of this mode of origin is the deposits near Cowell in South Australia (Nichol 1974).

Our strategy during the first season in the search for nephrite deposits in Labrador was guided by both archaeological and geologic evidence. Analysis of the relative quantities of nephrite manufacturing debris in Dorset sites along the coast (Nagle 1984) seemed to indicate that the greatest amounts occured in sites between Hopedale and Okak, rather than on the northern coast (Figure 5). The presence of manufacturing debitage there, together with the large size of many pieces, suggested that it was local, rather than Newfoundland, outcrops that were being exploited as the source of this raw material. On the geologic side, both the Hopedale and Okak areas (but not Nain) are characterized by the presence of many small ultrabasic or ultramafic intrusions, but lack significant dolomite or calc-silicate rock deposits. Therefore, we chose to concentrate our efforts this season on exploring accessible ultramafic bodies in these two regions for signs of nephrite mineralization. In addition, since nephrite and soapstone minerals can be formed under similar metamorphic conditions, we planned to recheck known soapstone outcrops when feasible for the possibility that associated nephrite deposits could have been overlooked previously.

Eight ultramafic bodies were inspected within a 40 km radius of the settlement of Hopedale. We were searching for sheared contact zones between partly serpentinized ultramafics and the country rocks, since this is the primary context of nephrite deposits in western Canada. Unfortunately, only two of the ultramafic bodies investigated were serpentinized and, at these, no jade was found. A major soapstone deposit was associated with one, however, and it is described below in the soapstone section.

In the Okak area, another seven ultramafic intrusions were visited. As in the Hopedate region, neither serpentinization nor deposits of jade were located. We were again rewarded, on the other hand, by two additional soapstone outcrops which came to light during the course of our reconnaissance.

Most of the ultramafic bodies appear to consist of weathered, rounded peridotite (pyroxene and olivine minerals), with little evidence of alteration to serpentine. Several, however, both around Hopedale and Okak, exhibited talcose rims around their peripheries. The talc was well enough developed at two or three intrusions such that it could have been utilized as sources for small Dorset soapstone vessels. Additionally, one ultramafic body south of Hopedale, on the western shore of Tooktoosner Bay, incorporated a sizeble zone of dark green serpentine, a material which might be used for the local, modern carving industry in Hopedale and elsewhere in Labrador.

In summary, although no jade deposits were located during my survey during the past season, results cannot be said to be entirely negative, since at least the areas searched have been ruled out as possible source locations. In the future, reconnaissance work should be guided by geologic maps which depict serpentinized ultramafic bodies, to maximize the time required to check individual intrusions for this prerequisite to nephrite mineralization. Clearly, this will require a cooperative effort between geologists familiar with the region and archaeologists conducting lithic resource surveys. In addition to ultramafic bodies, the few areas of calc-silicate rock present along the coast should be investigated for the potential they hold as nephrite sources.

Nephrite Jade - Laboratory Work

The research goals of analytical studies of nephrites deriving from the province are similar to those for chert and soapstone materials (Nagle 1984), but are hampered by a lack of known source deposits with which to compare artifactual specimens. As a result, most efforts to date have been concentrated almost solely on the analysis of artifacts, in pursuit of three principal objectives: 1) to subject samples to a range of analytical methods, encompassing petrographic thin-sectioning, x-ray diffraction (XRD), electron microprobe, and neutron activation (NAA), to determine which methods are best suited to characterize the material in a mineralogical or geochemical sense; since each technique provides a different kind of information about samples (thin-sections and XRD yield mineralogical data, microprobe scans give bulk rock composition, and NAA can furnish trace elements), each may inform on different qualities of the mineral necessary to successfully match artifacts to sources when these become known; 2) to build a data base of artifact analyses which will be available for comparisons when sources are found, and which can be used to establish the range of variability among analyzed samples; and 3) to offer clues about the geologic context expected of undiscovered sources on the basis of the mineralogical and whole rock compositions of artifact samples, in order to help direct field reconnaissance in the region.

Accordingly, 158 nephrite artifacts, rock samples from the season's field reconnaissance, and a chunk from the Noddy Bay outcrop in northern Newfoundland have been selected for analysis. Twenty-two of these have been sectioned for petrographic study and electron microprobe analysis of bulk rock composition. I have commenced XRD analysis of all samples, a process which entails considerable time in specimen preparation and data reduction. Chip samples for NAA are being prepared as XRD samples are processed.

All x-ray diffraction patterns of purportedly nephrite artifacts presently analyzed confirm that the samples are indeed predominately nephrite. Some are virtually pure tremolite-actinolite, while the majority contain varying amounts of other accessory minerals, usually quartz. The "Haypook Island" samples from southern Labrador returned by Fitzhugh in 1983 (Fitzhugh 1984: 12-13) are definitely not nephrite, although I have not yet ascertained their precise mineralogical composition.

Electron microprobe analysis (using defocussed beam scanning) of five artifact samples has indicated that all of these are likely to have been derived from a metavolcanic context, based on their ratios of magnesium to iron, whereas the material from Noddy Bay appears to come from a metamorphosed ultramafic body. The analyses also confirm the presence of quartz detected by ZRD analysis and noted in many thin-sections. The number of samples studied by microprobe analysis is, however, currently too small for definitive conclusions to be drawn from these data. When the remainer of all analyses have been completed, including thin-sections, x-ray diffraction, electron microprobe, and neutron activation we should have a much better understanding of nephrite artifact compositional variability and of the different geologic settings where we may expect to find outcrops of the material in the field.

Soapstone - Field Studies

During the course of nephrite explorations in Labrador during the past season, we also had the chance to revisit a number of soapstone outcrops which had been previously documented and sampled by Smithsonian-affiliated teams, or which had been reported to us by local residents. I wished to secure additional raw material samples, and check for potential nephrite occurrences, at those we had the opportunity to resurvey during the summer. While no nephrite was found, valuable new information on soapstone deposits was acquired in Adlatok Bay and at "Semiak Island" in the Hopedale area, and at two localities on Okak.

The soapstone outcrop in Adlatok Bay was originally reported to us by Winston White, who provided a sample of material for analysis. This year, we had the chance to inspect the deposit first-hand, and to collect additional samples. The source lies on the western side of the unnamed island at the very head of Adlatok Bay. The outcrop is 8 to 10 m wide at the water's edge, narrowing over a distance of 50 m as one proceeds inland (Figure 6). The material appears to have been mined by modern methods, as several blocks bear saw marks, and the scatter of debris suggests that the vein had been blasted at one time. No traces of prehistoric quarrying were seen during our brief inspection, although these could have been obliterated by more recent mining efforts.

The material from the Adlatok Bay outcrop is massive, and of excellent quality. Although the deposit should be rechecked for evidence of prehistoric utilization, and the talus examined for preform fragments and quarrying tools, once the possibility of earlier use is fully discounted there is no other reason why soapstone from the locality could not be taken for use by the modern carving industry in the area.

Reconnaissance of an ultramafic intrusion on "Semiak Island", a presently unnamed island immediately to the west of Napatalik Island north of Hopedale, yielded one of the most important discoveries of the summer. Although the area was inspected briefly, but unsuccessfully, for a soapstone outcrop by Fitzhugh in 1980 (Fitzhugh 1981), we found a substantial deposit there, together with the first concrete evidence of soapstone quarrying in Labrador (illustrating only the advantages of surveying before it gets dark).

The "Semiak" outcrop consists of scattered pods and boulders of soapstone on the northwestern cove of the island, extending from the shoreline up the western flank of the hill, in schists at the contact between the ultramafics and country rock (Figure 7). The shoreline boulders are quite conspicous, medium grey in colour, varying from massive to foliated, and range from 0.5 to 2 m in diameter. Two or three evidence recent use in the form of minor saw marks, but are otherwise intact. Material away from the beach is weathered an orangey-grey in colour, but is identifiable as soapstone by its generally rounded shape.

Two probable Neo-Eskimo triangular lamp preforms were discovered in-situ about 30 m from the shore (Figure 8). One is complete, and measures 61 by 45 by 11 cm in size; the second, adjoining the first, is similar in size but broken in half, possibly at the time of attempted detachment from the boulder. It is notable that these preforms provide the first real manifestation of soapstone quarrying in Labrador proper, although such activities are already documented for the Dorset period at Fleur de Lys in northern Newfoundland (Nagle 1982). Additional searching among the boulders at the Semiak Island outcrop is likely to produce more examples of preforming, from probably both the Neo-Eskimo and Dorset periods.

Two soapstone localities were visited in the Okak region. The first of these was an occurrence reported by Gilbert Hay of Nain, said to lie on the eastern shore of Moores Island Tickle (referred to in Nagle [1984] and here as the Nutak outcrop). The second was discovered by Steven Cox in 1974 on the western end of Moores Island.

The Nutak soapstone outcrop is located on the northwestern point of the eastern Okak Island, opposite Moores Island at the entrance to Moores Island Tickle. The deposit is relatively small, extending for no more than 20 to 30 m along the beach, but is easy to spot, since its medium grey colour contrasts strongly with the light brown country rock. The material is good quality, massive, but moderately hard rock. Although no prehistoric quarrying evidence was noted at this shoreside, wave-washed locale, we found a number of shot holes drilled in several large boulders and some blasted rock. It did not appear, however, as if large quantities of rock had been removed from the area. While Dorset people could have utilized small chunks of stone lying on the shore in front of the outcrop, they may not have been able to extract larger blocks from the deposit itself, since its rounded contours and lack of cracks may have forestalled efforts to pry sizable pieces loose.

The Moores Island outcrop, found by Cox in 1974 (Cox 1977: 176-178), lies on the southwestern side of the island, a hundred metres or so to the northeast of the Moores Island 1 site (HjCk-01). In 1984 we discovered a second deposit of soapstone on the northwestern side of Moores Island, which will be described here as Locality 2 of the same outcrop.

On the southwestern corner of the island (Locality 1), soapstone occurs over a distance of about 100 m in two discontinuous, parallel veins exposed at ground level. The material varies from a slightly greenish to a medium grey in colour, although the softest material is grey. The best quality stone is found in only five or six places, each around 3 to 5 m in extent, where the rock is massive and relatively soft. Although no indications of quarrying were noted, small blocks could have been won from the surficial deposit there without leaving much, if any, trace of such extractions.

Locality 2 of the Moores Island outcrop is situated on the northwestern side of the island, along the side of a hill which overlooks a prominent series of beach terraces. It consists of several gigantic soapstone boulders eroding out of the slope. The largest boulder is about 3 m in diameter and is fractured in half. The sizes of the others range between 1 and 1.5 m in diameter. A number of the boulders are markedly green in colour, but the softer ones are medium grey. None of the rocks displayed any apparent signs of quarrying.

Archaeological Field Studies

Although most of the summer's objectives were geologic in nature, directed at discovering source locations for three of the types of stone used by past Dorset occupants of the province, some strictly archaeological work was planned as well. I hoped to be able to conduct test excavations in Dorset sites along the central Labrador coast around Hopedale in order to increase the sizes of collections already in hand from the area. Larger assemblages from here would help to strengthen previous inferences made about lithic distributional patterns along the length of the coast (Nagle 1984), particularly for chert materials. The Hopedale - Davis Inlet region is an especially important area for investigations of the spatial patterning of chert utilization in Labrador, since it appears to straddle the geographic "breaking point" between the predominance of Ramah chert from Northern Labrador in assemblages, and increasing relative frequencies of chipped stone raw materials coming from Newfoundland sources (Nagle, in press).

Another priorty of archaeological interest was to visit sites where high concentrations of nephrite debitage had been found. Study of the debitage from such sites may help to shed light on Dorset nephrite procurement practices, through analysis of the reduction and manufacturing strategies employed to produce nephrite tools. For example, we should be able to determine from size distributions of waste products whether (presumably) local and more accessible outcrops were being exploited, or whether small pieces of raw material obtained from distant sources were being worked.

As described in the narrative section above, we were able to carry out additional test excavations in two sites around Hopedale, at the Hettasch Dorset site and at Napatalik North 1. Observations on, and collections of nephrite debitage were made at another two sites during the season — at Skull Island 1 southeast of Nain, and at Green Island 6 in Okak.

Work at Napatalik North 1 (GjCc-06) in 1984 consisted of both surface collections and test excavations, in part to learn more about the layout and structure of the site, but primarily to increase the artifact sample for stylistic and raw materials comparisons with Dorset sites elsewhere in Labrador and Newfoundland. Systematic shovel testing undertaken around the two semi-subterranean houses at the site located promising midden deposits only around House 2, the westernmost structure on the terrace. A 1 by 2 m test square was excavated about 3 m east of the house, producing abundant stone tools and debitage — of chert, nephrite, soapstone, and schist — together with an heretofore unexpected, although relatively poorly preserved faunal sample.

A 1 x 1 m test square excavated into the semi-subterranean house at the Hettasch Dorset site (GjCb-01), unfortunately produced very little in the way of material remains, with the exception of a 30 cm long schist whetstone.

Finally, I had the opportunity to revisit two sites reported earlier

(Cox 1977: 123-125; Fitzhugh personal communication) to contain large quantities of nephrite debitage. The sites of Skull Island 1 (HcCg-04) in the Nain area, and Green Island 6 (HkCk-01) in Okak, were mapped and systematic surface collections made in order to further studies of nephrite reduction and utilization.

Skull Island 1, a substantial site of at least two semi-subterranean houses, was originally designated as Middle Dorset, based on abundant Dorset lithic remains and complete lack of Thule artifacts from both the surface collection and in test pits (Fitzhugh 1981: 37). Outwardly, however, the house structures appear to be Thule. In 1984, another 50 x 50 cm test pit was excavated into the north wall of House 1 at the site in order to attempt to resolve the question of whether the house mounds were Dorset or Thule. While the stratigraphy of the pit was of no help in determining if this was a Thule house dug into earlier Dorset midden deposits, several distinctive green slate flakes were recovered in the excavation, providing the first artifactual clues for a Thule occupation. Although the evidence is presently slim, the design and construction features of the houses, together with the presence of the slate flakes, point to a Thule origin. This suggestion is also consonant with other emerging data confirming Thule occupations on Skull Island (see Kaplan, this volume).

Our new collections of lithic material from the season reinforce earlier conclusions (Nagle 1984:271-273; in press) that: a) greater quantities of Newfoundland cherts are found in Dorset sites around Hopedale relative to sites located north of Nain on the coast; and that b) the mean size of nephrite debitage is larger on the central coast, and relative amounts greater, than in sites found north of Okak. This latter finding leads me to suggest that the most important sources of nephrite exploited by Dorset groups throughout Labrador will eventually be found to be localized between Hopedale and Okak.

It is becoming more and more apparent, therefore, that Hopedale Dorset populations obtained a minor, but significant proportion of their chipped stone supplies from Newfoundland chert sources, in addition to those derived from the Ramah quarries in northern Labrador. Be that as it may, we are still far from understanding the mechanisms of procurement underlying such chert utilization patterns. Did Dorset groups in Labrador travel long distances to chert deposits themselves in order to acquire raw material? Or, do spatial patterns reflect wide-ranging networks of communication and exchange between various local groups resident in different areas of the coast and on Newfoundland? Answers to these questions will only be forthcoming by continuing to document the sources of cherts and other lithic resources throughout the province, and by study of the archaeological distributions resulting from their use.

SUMMARY AND FUTURE PROSPECTS

The 1984 season can only be judged as partially successful, insofar as lithic source documentation is concerned. Although several new chert outcrops were recorded in western Newfoundland, and additional soapstone deposits located in central Labrador, we were unable to match this record in the search for sources of nephrite jade. Nevertheless, much valuable experience in geologic reconnaissance was gained during the summer, which will be useful in future field work, and a number of locations were struck from the list of those which are potential candidates for nephrite mineralization. I am confident that continuing field surveys will succeed in locating nephrite jade in central Labrador.

In the interim, laboratory investigations of various kinds on lithic materials from Newfoundland and Labrador are ongoing. The results of these studies should eventually enable us to reconstruct the different strategies used by the Paleo-Eskimo and Indian inhabitants of the province to procure the raw materials necessary to manufacture their stone tool kits. Hopefully, they will also provide us with evidence of how local groups within these societies interacted with one another, of the nature of exchange networks for materials and goods they may have possessed, and of the cumulative effects these processes must have had on cultural continuity and change throughout the region over time.

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The success of any interdisciplinary field and laboratory project depends upon the assistance and support of many people and organizations. This one is no different. I apologize if I have neglected to mention here the particular contribution of any one person. Any errors of fact or interpretation are my own. On the field side of the work, Ingo Ermanovics is thanked for providing detailed, unpublished geologic maps of the Hopedale area, and for discussions of the geology of the region. The welcome assistance of Stan Leaming on the project, in the field and since, is gratefully acknowledged. Thanks also go to Steven and Ruth Cox for contributing their time and car in the field. Bill Fitzhugh volunteered to host his old graduate students on the Tunuyak for the season, and hardly ever complained when all went ashore to look at rocks. Back in the laboratory, Greta Hansen and Cathy Valentour helped me conserve the faunal remains from Napatalik. Vic Krantz produced the thin-section photo. Laboratory work at the Smithsonian was made possible by a post-doctoral fellowship in the Conservation Analytical Laboratory there, and by additional support provided by the Departments of Anthropology and Mineral Sciences. Financial assistance was provided by grants from the Fluid Research Fund of the Smithsonian Institution, and from the Historic Resources Division, Government of Newfoundland and Labrador. Work was conducted under permits issued by Historic Resources and Parks Canada.

REFERENCES CITED

Auger, Reginald

1982 A Preliminary report on Early Dorset occupations on the west coast of Newfoundland. In: Archaeology in Newfoundland and Labrador 1981 J.S Thomson and C. Thomson, (eds.), Annual Report 2, 130-151. Historic Resources Division, Government of Newfoundland and Labrador, St. John's.

Binford, Lewis R.

1979 Organization and formation processes: looking at curated technologies. Journal of Anthropological Research 35:255-273.

Binford, Lewis R. and James F. O'Connell

1984 An Alyawara day: the stone quarry. Journal of Anthropological Research 40:406-432.

Collins, Michael B. and Jason M. Fenwick

1974 Heat treating of chert: methods of interpretation and their application. Plains Anthropologist 19:134-145.

Cox, Stephen L.

1977 Prehistoric Settlement and Culture Change at Okak, Labrador. Unpublished Ph.D disseration, Dept. of Anthropology, Harvard University.

Deer, W.A., R.A. Howie and J. Zussman

1968 An Introduction to Rock Forming Minerals. Longman, London.

Fitzhugh, William W.

1973 Smithsonian archaeological investigations on the Labrador coast, 1973: a preliminary report. Canadian Archaeological Association Bulletin 5:77-90.

1976 Preliminary Culture history of Nain, Labrador: Smithsonian fieldwork 1975. Journal of Field Archaeology 3:123-142.

1981 Smithsonian archaeological surveys, central and northern Labrador,1980 In: Archaeology in Newfoundland and Labrador 1980. J.S. Thomson and B. Ransom (eds.), Annual Report 1: 26-47. Historic Resources Division, Government of Newfoundland and Labrador, St. John's.

1984 Residence pattern development in the Labrador Maritime Archaic longhouse models and 1983 surveys. In: Archaeology in Newfoundland and Labrador 1983. J.S. Thomson and C. Thomson (eds.), Annual Report 4: 6-47. Historic Resources Division, Government of Newfoundland and Labrador, St. John's.

Gould, Richard A.
1980 Living Archaeology. Cambridge University Press, Cambridge.

Gramly R. Michael
1978 Lithic sources areas in northern Labrador. Arctic Anthropology 15:36-47.

James, Noel P. and Robert K. Stevens
1982 Excursion 2B: Anatomy and Evolution of a Lower Palaeozoic Continental Margin. Field Excursion Guidebook, International Association of Sedimentologists. Memorial Universtiy, St. John's, Newfoundland.

Kindle, C.H. and H.B. Whittington
1985 Stratigraphy of the Cow Head region, western Newfoundland. Geological Society of America Bulletin 69:315-342.

Lazenby, M.E.C.
1980 Prehistoric sources of chert in northern Labrador: fieldwork and preliminary analysis. Arctic 33:628-645.

Leaming, Stan F.
1978 Jade in Canada. Geological Survey of Canada Paper 78-19. Ottawa.

1985 Jade in Labrador. Unpublished ms. in the possession of the author.

Linnmae, Urve
1975 The Dorset Culture: a comparative study in Newfoundland and the Arctic. Technical Papers of the Newfoundland Museum No. 1. St. John's, Newfoundland.

Melcher, C.L. and D.W. Zimmerman
1977 Thermoluminescent determination of prehistoric heat treatment of chert artifacts. Science 197:1359-1362.

Nagle, Christopher L.
1982 1981 field investigations at the Fleur de Lys soapstone quarry, Baie Verte, Newfoundland. In: Archaeology in Newfoundland and Labrador 1981, J.S. Thomson and C. Thomson (eds.), Annual Report No.2: 102-129. Historic Resources Division, Government of Newfoundland and Labrador, St. John's.

1984 Lithic Raw Materials Procurement and Exchange in Dorset Culture Along the Labrador Coast. Unpublished Ph.D. disseration, Dept. of Anthropology, Brandeis University.

in press Flaked stone procurement and distribution in Dorset culture sites along the Labrador coast. In: Menorial University Publications in Archaeology, James A. Tuck (ed.). St. John's, Newfoundland.

Nichol, D.
1974 Nephrite jade deposits near Cowell, Eyre Peninsula. Report Book, No. 74/201, Dept. of Mines, South Australia.

Olausson, Deborah S. and Lars Larsson
1982 Testing for the presence of thermal pretreatment of flint in the Mesolithic and Neolithic of Sweden. Journal of Archaeological Science 9:275-285.

Rick, John W. and Sylvia Chappell
1983 Thermal alteration of silica materials in technological and functional perspective. Lithic Technology 12:69-80.

Robins, G.V., N.J. Seeley, D.A.C. McNeil, and M.R.C. Symons
1978 Identification of ancient heat treatment in flint artefacts by ESR spectroscopy. Nature 276:703-704.

Simpson, David N.
1984 The Port-au-Port Peninsula archaeology project: a preliminary report. In: Archaeology in Newfoundland and Labrador 1983, J.S. Thomson and C. Thomson (eds.), Annual Report 4: 126-141, Historic Resources Division, Government of Newfoundland and Labrador, St. John's.

Tuck, James A.
1978 Excavations at Cow Head, Newfoundland, an interim report. Etudes/Inuit/Studies 2:138-142.

Wooley, A.R.
1983 Jade axes and other artifacts. In: Petrology of Archaeological Artefacts, edited by D.R.C. Kemp and A.P. Harvey, pp. 256-276. Clarendon, Oxford.

Wright, James V.
1982 La circulation de biens archaeologiques dans le bassin du St-Laurent au cours de la prehistoire. Recherches amerinidiennes du Quebec 12:193-205.

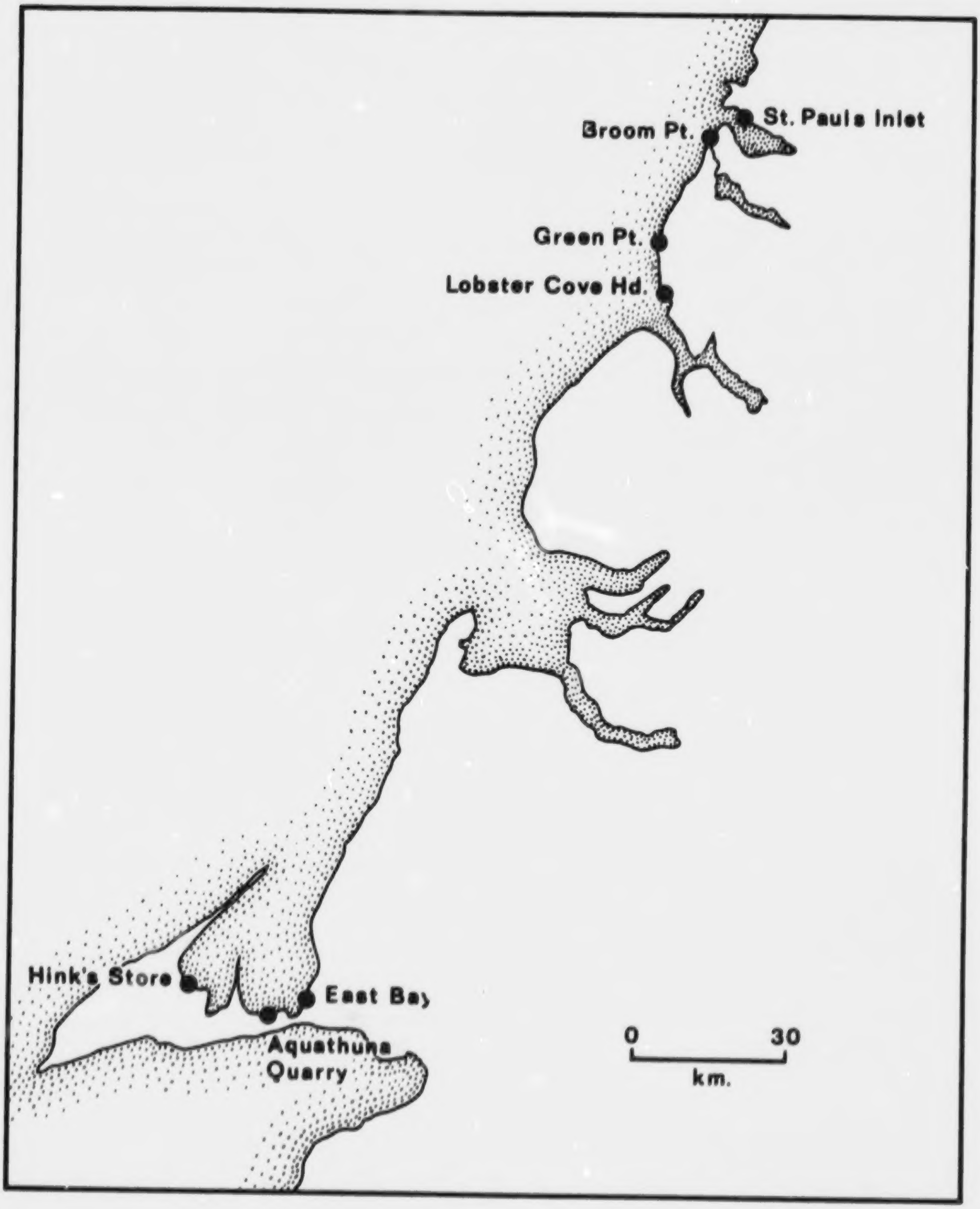
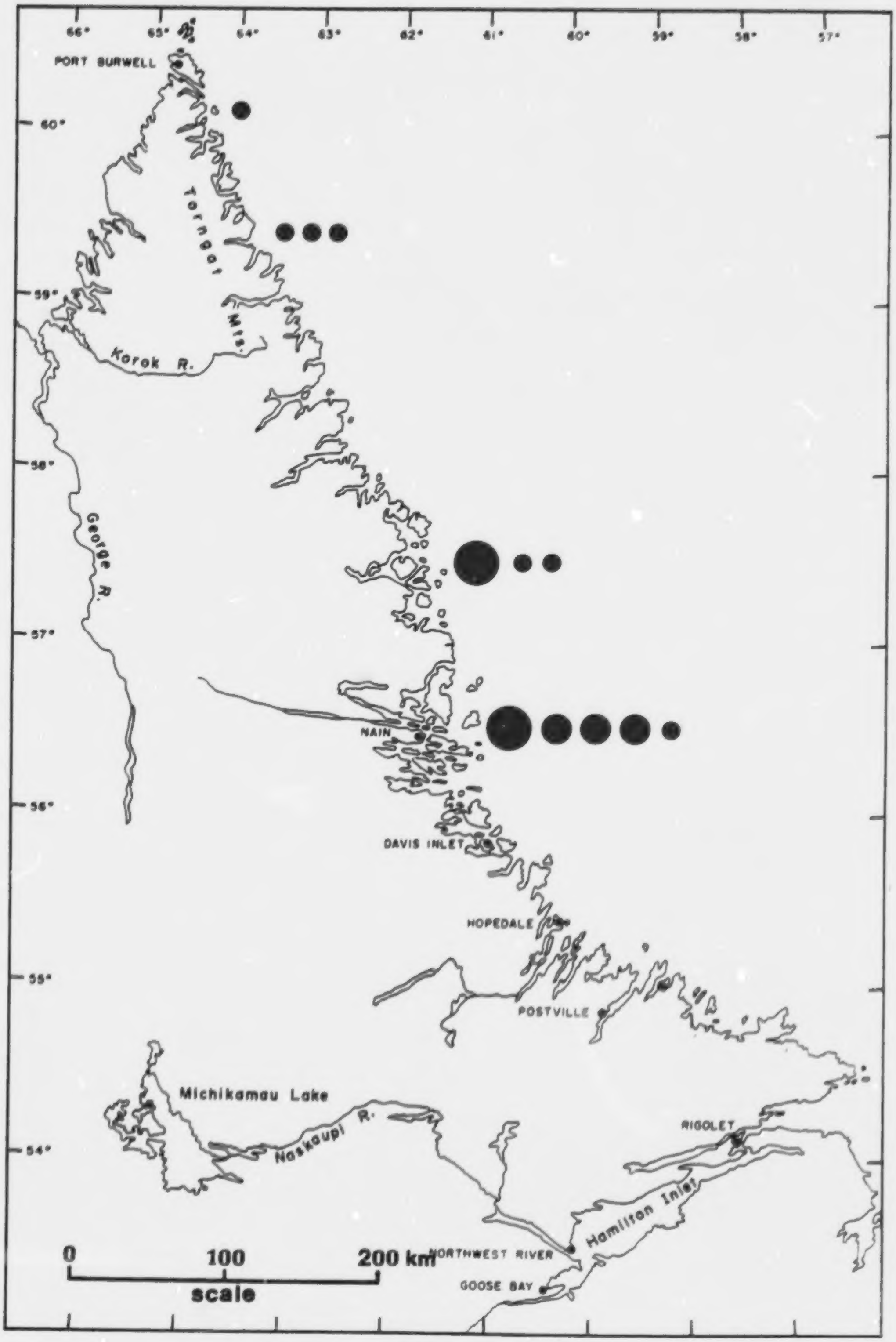

St. Pauls Inlet
Broom Pt.
Green Pt.
Lobster Cove Hd.
Hink's Store
East Bay
Aquathuna Quarry
0
30
km.

Figure 1

Map of western Newfoundland showing localities mentioned in the text.

Figure 2

Relative amounts of nephrite debitage in selected Dorset sites along the Labrador coast. Dot size on map illustrates approximate difference between sites.


66°
65°
64°
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62°
61°
60°
59°
58°
57°
60°
59°
58°
57°
56°
55°
54°
PORT BURWELL
Torngat Mts.
Korok R.
George R.
NAIN
DAVIS INLET
HOPEDALE
POSTVILLE
Michikamau Lake
Naskaupi R.
RIGOLET
Hamilton Inlet
NORTHWEST RIVER
GOOSE BAY
0
100
200 km
scale

Figure 3

Hink's store chert outcrop, West Bay, Port-au-Port Peninsula. View east at chert nodules on the beach. Ruth Cox stands in the foreground for scale.

Figure 4

Hink's Store chert outcrop, West Bay, Port-au Port Peninsula. One of two possible quarrying adits found penetrating the outcrop at ground level. Opening measures roughly 1 x 1 x 1 m.

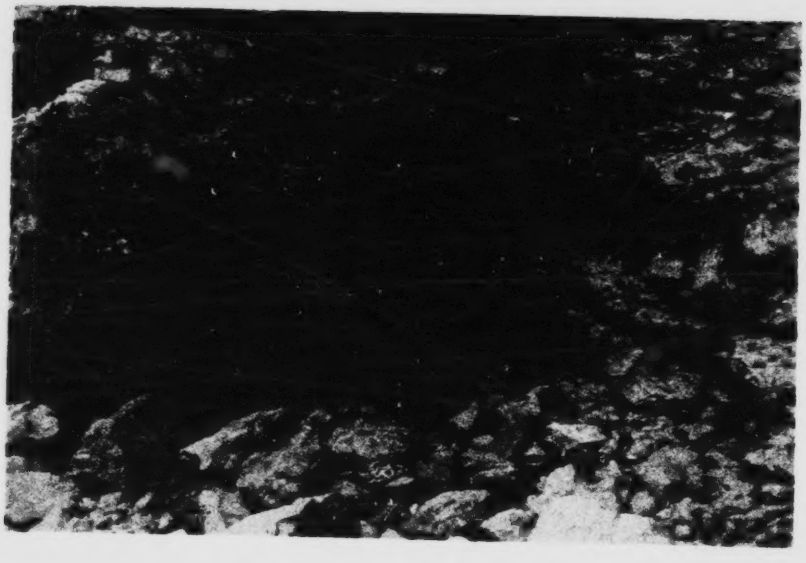


Figure 5

Petrographic thin-section of mottled brown-grey chert from East Bay outcrop, Port-au Port Peninsula. White spherical objects are the silicified remains of radiolarian fossils, while the white linear features are sponge spicules. Crossed polars, scale about 40x.

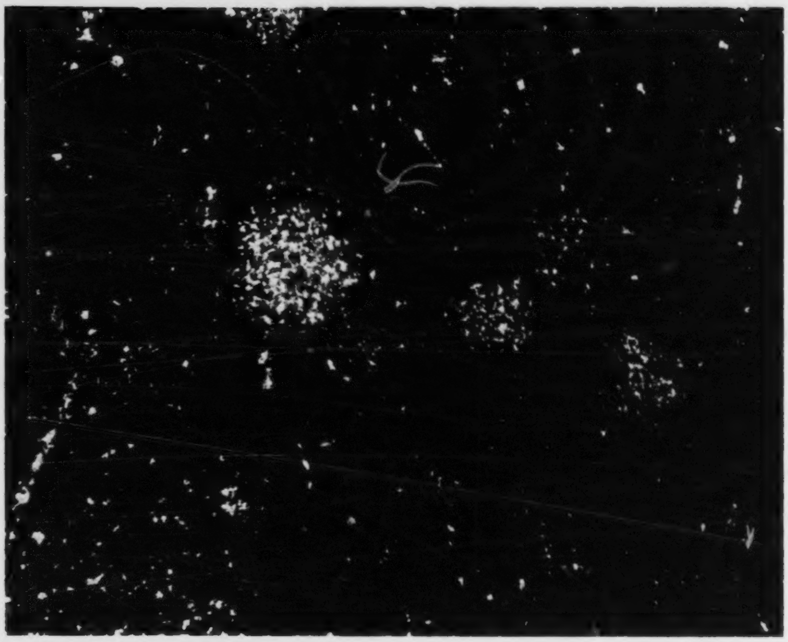


Figure 6

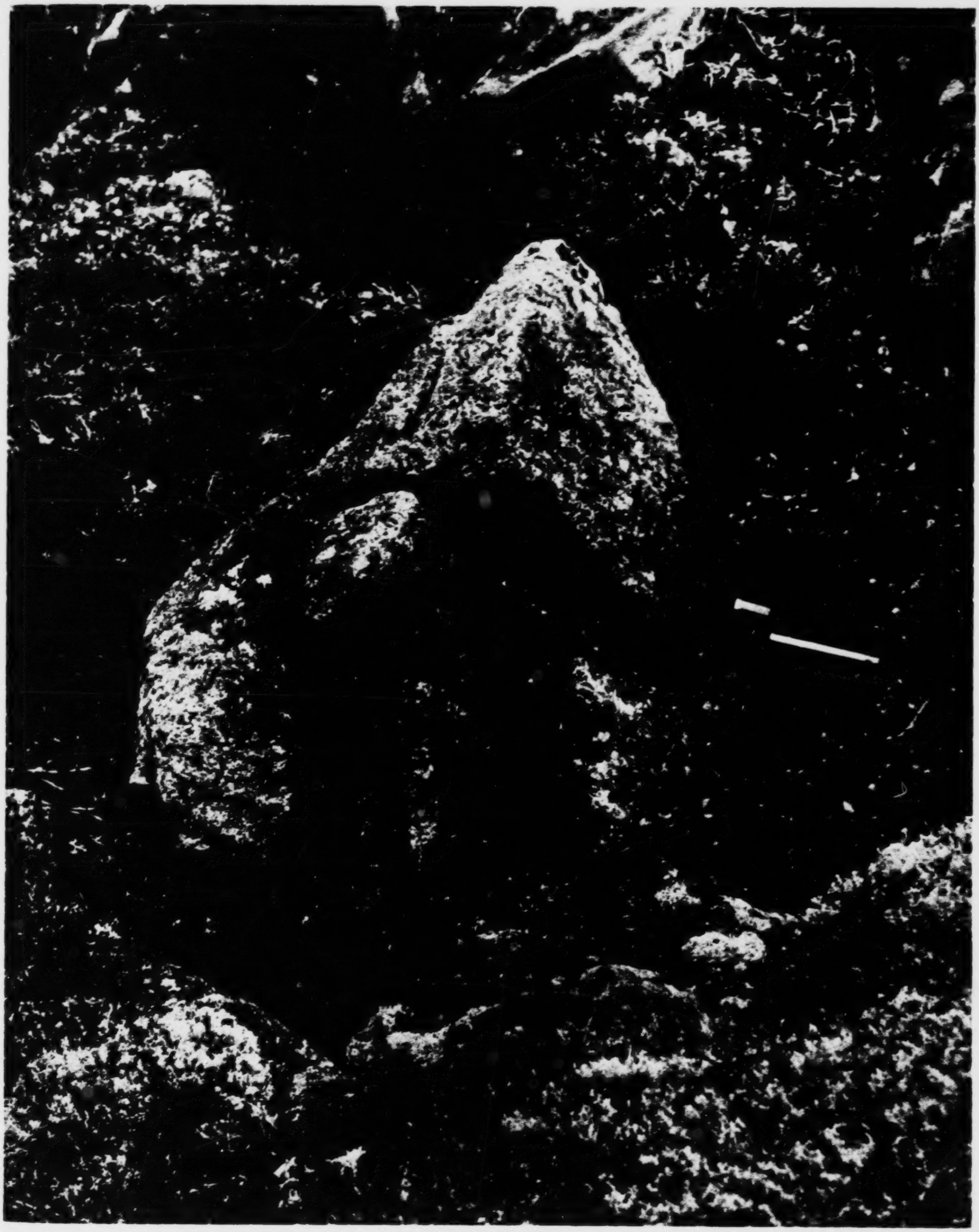
Adalok Bay soapstone outcrop, central Labrador. View northeast at modern quarried blocks (left centre) lying on soapstone debris 2 m from the shore. Outcrop lies perpendicular to the field of view and to the right in the photo. Scale provided by metre rod.

Figure 7

Semiak Island soapstone outcrop, central Labrador. View southeast of western side of the cove, showing soapstone boulders in the foreground along the shore. Outcrop extends from the boulders around the cove to the western side of the dark rock (ultramafic) intrusion in the left background. The boulders in view are about 1.5 m long.

Figure 8

Semiak Island soapstone outcrop. Two probable Neo-Eskimo lamp preforms in-situ on soapstone boulder. Scale extended 20 cm.



ARCHAEOLOGICAL INVESTIGATIONS INTO THE NATURE OF THE LATE PREHISTORIC INDIAN OCCUPATION IN LABRADOR: A REPORT ON THE 1984 FIELD SEASON.

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INTRODUCTION

During the summer of 1982 an archaeological research project was initiated in the Davis Inlet-Voisey Bay region of the central Labrador coast (Loring 1983). A second field season was completed in the summer of 1984. The project was designed to understand the socioeconomic changes that are apparent in the late prehistoric, contact, and historic Indian cultural continuum in the region. An ethnographic interpretation of the indigenous Indian people of the area, the Innu (or Naskapi, as they are known in the historical and anthropological literature), has long been a favorite source for modeling the settlement and subsistence patterns of prehistoric cultures throughout much of the Northeast. This, despite the lack of the very sort of data appropriate to ethnoarchaeological interpretations, namely detailed evidence of resource procurement strategies and land-use.

The Innu of the ethnohistorical literature have long been characterized as interior caribou-hunting specialists. However, their immediate protohistorical predecessors in Labrador, known in the archaeological literature as Point Revenge (Fitzhugh 1972, 1978), had a major maritime component in their economy, as do the contemporary Innu of Davis Inlet. The culture history of

Labrador, as it is presently revealed, suggests that interior-based adaptations may be extremely productive for a short period but disastrous in the long run due to the unpredictable nature of the caribou migration (and to the lack of significant alternative resources) and to climatic variability. It now appears that, beginning about A.D. 500, the protohistoric Point Revenge and Innu groups maintained a flexible economic strategy, varying their dependence on coastal/maritime vs. interior terrestrial resources. Their economic policies were accompanied (as observed in historical instances and suspected in prehistory) by pronounced sociocultural change. Most significantly, these cultures apparently were able to maintain the integrity of their own ethnicity in the face of contact with a number of different cultures including late Dorset, Neoeskimo, and European (perhaps commencing, at an early date, with the Norse). During the 1984 field season excavations were conducted at several late prehistoric Indian sites in an effort to shed light on three research questions:

1. Determining the relationship between the historically recognized Innut culture and the preceeding protohistorical Indian occupations.

2. Examining the consequences of maintaining specialized (caribou hunting) economy in contrast to one that is more diversified in respect to the implications that each has for social organization.

3. Developing hypotheses to explain the mechanisms behind the maintenance of Indian-Inuit ethnic boundaries. In Labrador this ethnic distinction appears to be visible for at least the last thousand years of that region's history. The impressive quantities of Ramah chert used in the late prehistoric Indian assemblages dramatically attest to some sort of Indian-Paleoeskimo contact. With the expansion of Neoeskimo groups in the 16th and 17th centuries, and with the advent of Europeans, earlier patterns of behavior must have been drastically changed.

NARRATIVE

> Once you are on the coast of Labrador, the principal obstacle to enjoyment in the early summer is the mosquito, of which pest much has been written and said; but what has been written is inadequate, and what is said is unfit for publication, so we may pass this aspect of the question over in silence.
>
> G.M Gathorne-Hardy (1922)

The initial research party composed of Loring and Koff arrived in Nain on July 21. After several days of provisioning and overhauling canoe and equipment we set out for Kamarsuk (a 45 km run to the south) late in the day under threatening skies. With rising winds and waves we sought shelter while still some distance from our destination. We were confined to a camp on the north shore of Satosoak for two days. Satosoak is a heavily forested island with a deep shallow bay along its northern shore. We found several recent Inuit camps nestled back from the shore of the bay, presumably resulting from the visits of Inuit hunting parties interested in the migratory waterfowl who frequent the area.

With the calm following the storm we broke camp and ran down to Kamarsuk in the late afternoon of July 25 (Figure 2). During the 1982 field season a Point Revenge feature had been excavated at Kamarsuk (Loring 1983: 42). Test pitting had revealed the presence of at least one other coterminous structure and we had hopes that additional features might be located. A long spell of bright hot weather was with us during most of our stay here. The sheltered qualities of the cove at Kamarsuk may well have figured in the choice of that site by its prehistoric inhabitants; it certainly proved favourable to the mosquito and blackfly hordes which made shelter, in the form of headnets, smudges, and tents mandatory.

The Smithsonian research vessel Tunuyak pulled into the Kamarsuk cove on the evening of August first. Early the following morning Tunuyak and her crew departed for northern ports, now however without Benjamim Fitzhugh, who had arranged to spent the remainder of the summer with us. We spent 11 days at Kamarsuk during which we excavated a Point Revenge circular structure and a small activity area which was situated nearby. In addition the entire site area was mapped and shovel tested.

We made a pre-dawn departure on the morning of the 6th of August in an attempt to escape the winds and waves which make the Voisey Bay crossing one of the more difficult in the region. Despite these precautions, by the time we approached the southern shore, Voisey Bay's infamous fair-weather west winds had risen a dangerous sea. We made a grateful landfall near Cape Little and spent the remainder of the day surveying (without success) the raised beaches in the vicinity. We used the evening calm to round Cape Little, camping for the night at William Ritchie's cabin in Takpanayok Bay near Zoar. The next morning we visited the site of the former Moravian mission at Zoar (1865-1890) (Figure 3) before continuing to Daniel Rattle.

The archaeological sites at Daniel Rattle (approximately 12 km west of the community of Davis Inlet) are situated on a prominent series of raised beaches bounded by the shallow water at Daniel Rattle on the east and by the broad reaches of Sango Bay on the south. An important Point Revenge component had been isolated here during the 1982 field season (Loring 1983: 42-43).

Twelve days were spent at Daniel Rattle. The field party was augmented by the arrival of Sue Romeiser, from Happy Valley, who joined the project for the duration of its stay in the Davis Inlet region. Several activity loci, all attributable to an early Point Revenge component, were discovered. Excavations concentrated on exposing the remains of a longhouse structure which had a raised central hearth nearly 4.5 m long. While at the Daniel Rattle site we discovered a remarkable cache of artifacts attributable to a previously undefined Early or Middle Woodland assemblage partially exposed in a path.

On August 13 we accompanied an Innut family from Davis Inlet up Sango Brook to the large lake 10 km above the bay. Numerous Innut winter camps are situated on the shores of the river's embayments and at the head of the river where it leaves Sango Lake. This latter location is situated on a pronounced series of raised beaches where, despite an intensive survey effort, we failed to locate any prehistoric sites. Soon after sunrise on the morning of August 20th, William Fitzhugh and the Tunuyak cautiously probed their way into Sango Bay. We had planned to culminate the 1984 field season by travelling south with the Smithsonian researchers in order to investigate a number of sites, the accessibility of which was practicable only because of the logistical advantages offered by the Tunuyak.

We left Davis Inlet that afternoon and ran down to the Lance Grounds just west of Windy Tickle where we anchored in a sheltered cove for the night. On a brief excursion ashore, in the last light of the day, we found a single cobble hearth partially exposed on the edge of an eroding blowout. The presence of numerous small flakes of Ramah chert and the low beach elevation made a Point Revenge attribution of the feature plausible; however, no artifacts were found.

Much of the following day was spent at a Maritime Archaic site on a high boulder beach west of Shoal Tickle. In the late afternoon (after fetching the impetuous Tunuyak, which pulled its anchor and was drifting towards England) we steamed south to an island anchorage within close proximity of Hopedale. We reached Tickle Arichat the following evening where we were able to relocate the Point Revenge site that Fitzhugh had discovered and tested in 1973 (Fitzhugh 1978:163). We spent the morning and afternoon of August 23 conducting additional mapping and excavations at Windsor Harbour. As autumnal storms frequently threaten delays, we used the continued spate of good weather for a late evening steam to West Turnavik Island at the head of Kaipokak Bay. Despite our late arrival, we were awake quite early with the fishermen whose summer fishing stages line the rocky sides of the harbour. After a visit with friends from Postville, we crossed to Aillik, to visit the important Maritime Archaic sites situated on the raised boulder beaches. We stopped at Makkovik briefly before pushing on to make an anchorage at Rogers Harbour, a tiny cliff-bounded nook on the northern tip of Kikkertavak Island. It was a great harbour, but the proximity of the pounding surf made for a restless night.

The next day after a brief visit to a site near Cape Deus that Fitzhugh was keen to investigate, we arrived at Steve Tooktashina's place at Webeck Harbour. The Tooktashinas live at Grave Bay, a place that has hosted a number of different occupations (Figure 4). We spent part of the following day assessing the significance of the Point Revenge component located at Webeck Harbour before taking advantage of the afternoon calm to round Cape Harrison. Off the cape we were joined by a pack of killer whales (between 5 and 7 individuals), the first in our Labrador experiences. We had a long, late night steam across Byron Bay to Holton Harbour, then spent the next two days in Groswater Bay, which enabled us to visit the Point Revenge site at Winter

Cove and the Maritime Archaic sites at Rattlers Bight, Black Island and West Pompey Island. We arrived at Goose Bay early on the morning of August 30, after an all night steam down Lake Melville.

While awaiting our departure from Goose Bay I was able to examine a collection of archaeological materials in the possession of Lawrence Jackson. Jackson had formerly resided in Blanc Sablon on the Quebec North Shore where he had located a number of prehistoric sites found eroding out of ancient beach deposits.

EXCAVATION AND SURVEY RESULTS

Kamarsuk (HbCj-1)

In 1982 test excavations established unequivocally the presence of a Point Revenge component at Kamarsuk. In a portion of the site designated Area I, a single feature, consisting of a circular distribution of Ramah chert debitage some 2 m in diameter, had been excavated. At the end of the 1982 field season, test-pits had located a second concentration of debitage 15 m north of Area I. Situated along the crest of the raised beach system at Kamarsuk, from Area II one can see south to Voisey Bay and east down the long run seaward past Kiuvik Island. In the course of our work at Area II eleven 2 x 2 m squares were excavated. An oval tent structure approximately 5 m in diameter with a raised central cobble hearth was revealed. The hearth, delineated by an oval ring of small rocks and cobbles, measured 1 x 0.5 m and was situated at the southeastern end of a raised linear bed of ash and sand which traversed the central part of the structure. The hearth was full of calcined bone fragments and thermally-altered flakes of Ramah chert.

The Ramah chert debitage was not equally distributed throughout the structure. Debitage was found densely spread on the living floor on the east side of the structure and in front of the hearth facing the sea. The back of the structure and the western half had only a small amount of scattered debitage and a few artifacts associated with it. Although copious amounts of Ramah chert debitage were recovered from the excavation of the structure, relatively few artifacts were found. The chipped stone assemblage (approximately 30 artifacts) from Area II included the proximal portion of a single side-notched projectile point, a square-based biface, a variety of scraping tools, (including triangular endscrapers, small "thumbnail" end scrapers, end and side flake scrapers), and assorted biface fragments and utilized flakes (Figure 7). Several polished slate flakes that appeared to have spalled off from a large ground stone tool were also recovered. Finally, the artifact inventory included a half-dozen small undecorated grit-tempered earthenware sherds found in a refuse deposit immediately adjacent to the northeast wall of the structure.

The sherds, all from a single vessel, include one that contains a part of the rim, one that is from the portion of the vessel where the straight sides curve towards the conical base, and the remainder which are from the upper portion of the vessel close to the rim. They appear to be part of a small conical pot with smooth straight walls. The maximum thickness of the body sherds is 140 mm; at the rim the vessel's walls have thinned to 88 mm. This is the first incidence of prehistoric ceramics recovered from an undisturbed context in Labrador. Junius Bird found a single grit-tempered sherd lying on the floor of a Neoeskimo structure (House 4) at Avertok, the old Inuit village at Hopedale, in 1934 (Bird 1945:142-143). Bird reports the presence of a small Point Revenge component at Avertok that had been partially destroyed by a another Neoeskimo sod house (House 9). The Point Revenge site, which apparently had once contained a structure, was about 125 m north of House 4. The fact that no ceramics were found directly associated with the Point Revenge lithic material makes for a problematic attribution of the specimen. Unlike the Kamarsuk ceramics which are undecorated, Bird's sherd from Avertok has a complicated dentate stamp impression. It appears to be very similar to the single sherd recovered to date on the island of Newfoundland; at the L'Anse a Flamme site on the south coast (Penny 1981), and to a sherd that Wintemberg recovered from Forteau Bay near Blanc Sablon (Strong 1930: 133).

Part of the 1984 field strategy was to determine the extent of the Point Revenge occupation at Kamarsuk beach. As nearly the entire area was covered with a thick mantle of lichen and moss we included an intensive test pitting program in an effort to locate additional structures and activity areas. A small distinct activity area was located 30 m north of the Area II structure. Area III consisted of amorphous distribution of Ramah chert debitage and several biface fragments in an area of 25 m^2. The size of the Point Revenge site at Kamarsuk suggests that the component was derived from a single occupation by a small residential group, possibly a single family, an extended family, or a small aggregation allied by kinship and resource procurement strategies.

Daniel Rattle-1 (GlCg-1)

Discovered during the 1982 field season, Daniel Rattle-1 was recognized to have a major early Point Revenge component. Excavations at that time exposed an oval tent structure with a pair of raised cobble hearths. Surveying indicated that additional features attributable to a Point Revenge component were present. The site is situated on a prominent series of raised beaches overlooking Sango Bay. The excellent location includes a bubbling spring and the site is a popular one for people from Davis Inlet. Numerous winter and spring tenting sites litter the hillside. We were disappointed to find that children apparently had discovered the area of our 1982 excavations and had torn up much of the surrounding area. Fortunately we had excavated most of the structure previously so that only its margins had been vandalized.

Three areas of Point Revenge occupation were found on the Daniel Rattle beaches. Area II, situated at 15.3 m above sea-level (a.s.l.), had contained the structure excavated in 1982. Area III, approximately 30 m to the southwest of Area II, contained a number of isolated cobble hearths adjacent to at least one tent structure. Area IV, 30 m west of Area III and near the western edge of the beach series, contained the remains of a shaputuan or longhouse (Figure 4). The Area III features were situated between 10 and 11 m a.s.l. Area IV was 12 m a.s.l.

Beyond delineating a small structure and several adjacent cobble hearths, excavations in Area III were unrewarding. Testing along the perimeter of the site we located Area IV which appeared to contain both the remains of a structure and impressive amounts of Ramah chert tools and debitage. Four small cobble hearths, two at each end, were found flanking a raised linear hearth 4.5 m long and 1 m wide. Although no walls were apparent, the distribution of tools and debitage suggests that the structure was about 8 m long and 4 m wide. The central hearth was packed with calcined bone fragments, ash, thermally-altered flakes of Ramah chert, heat-shattered biface fragments, and fire-cracked rocks.

Over 250 chipped stone tools and tool fragments were recovered. With but one or two exceptions the entire tool assemblage is made from Ramah chert. A few flakes of exotic raw materials were recovered that may be derived from lithic sources in the Maritimes. The predominant artifact class consisted of large flakes of Ramah chert that had been retouched to produce a wide variety of bifacial cutting and/or unifacial scraping implements. Many of these flake tools have retouched edges between 5 and 10 cm. in length and represent substantial investments in raw material. Other artifacts recovered included square-based lanceolate bifaces, small disk-shaped "thumbnail" scrapers, triangular end scrapers,(Figure 6) and numerous utilized flakes and biface fragments. A small portion of a ground slate object, which could be from either an ulu or a gorget, was found next to the hearth.

Shaputuan structures are known from a number of sites in the Lake Caniapiscau and La Grande Riviere systems of central Quebec (Denton, personal communication, Laliberte 1980) as well as at Indian House Lake on the George River (Samson 1975). Most of these structures date to the early historic period. Based on the similarity between tool assemblages at Daniel Rattle and at Postville (Fitzhugh 1978:160-163) the shaputuan at Daniel Rattle is believed to be about 1000 years old. To date it is the only structure of its type to have been located on the Labrador coast.

Chance, it is said, favours the prepared mind, but luck has always played a fortuitous role in archaeology. The eastern edge of the beach terraces at Daniel Rattle are bordered by a rocky knoll which provides a fine view of both Daniel Rattle and Sango Bay. As the site location is sheltered by higher beaches, the knoll was the nearest place where one might find breeze enough to keep the mosquitoes and blackflies at bay. A well trampled trail led from the Innut camps to this overlook. Returning from a respite on the knoll, we discovered a remarkable cache of tools eroding into the trail (Area V). Trowelling back the surface vegetation we uncovered a cache of ten endscrapers, a whetstone, a large corner-notched biface, a smooth pebble and a small chunk of graphite (Figure 5). The biface, whetstone and seven scrapers were found to be in immediate association, the remainder of the cache was found loosely grouped 15 cm away. The biface and scrapers were made from a variety of purple and pink cherts and were all in pristine condition. The end scrapers can be sorted into two broad classes: one variety consists of large, oval, disk-shaped scrapers, the other of elongated triangular forms with a high dorsal ridge. These endscrapers clearly are closely related to the scrapers recovered from a cache of tools at the Piloski Garden site in North West River (Fitzhugh 1972:76, Plate 40). Fitzhugh has assigned the Poloski Garden material to his Charles Complex (1972: 13, 115, 145-147), which is estimated to date to ca. 3000 B.P. The Charles Complex sites at North West River did not contain any projectile points. The large (13 cm long x 6.5 cm wide) corner-notched biface recovered with the cache at Daniel Rattle is unique: it does not seem to be related to any known projectile point style from Labrador or from the Strait of Belle Isle (McGhee and Tuck 1975, Harp 1964). Closest stylistic affinities are with the Early Woodland component at Long Sault Island in the St. Lawrence (Ritchie and Dragoo 1960) and with Middle Woodland assemblages from the Great Lake regions (Wright 1967, Fitting 1970); however, such an attribution would necessitate revising the age estimate of the Piloski Garden site and call for a new interpretation on Intermediate Indian period assemblages.

Windsor Harbour-1 (GhBw-1)

A brief visit was made to Windsor Harbour-1, a Point Revenge site discovered by Fitzhugh on a peninsula near Tickle Arachat, on the south side of Kanairiktok Bay (Fitzhugh 1979:163). Fitzhugh's 1973 excavations had exposed a partially dismantled oval tent-ring approximately 2 m in diameter. Our investigations failed to locate any additional structures. Test pits in the vicinity of the tent ring located an area of concentrated debitage surrounding an isolated hearth. Ramah chert was the only lithic material recovered: artifacts included several biface fragments and utilized flakes, as well as a diagnostic square-based biface and a semilunar knife, which may well be a Maritime Archaic heirloom (Figure 7).

Webeck Harbour (GfBm-1)

Cape Harrison is the most exposed headland on the Labrador coast; as a consequence, the Grave Bay anchorage at Webeck Harbour has figured significantly in coastal travel for at least the last two millennia. Several previous visits by Smithsonian researchers had demonstrated that the raised beaches at the head of the bay have hosted a number of different prehistoric and historic period occupations (Fitzhugh 1978:160, 1982). Ramah chert debitage found at low elevations had been attributed to a Point Revenge component but the lack of any diagnostic tools made the attribution uncertain. During the day we spent at the site we conducted excavations at two separate areas where test-pitting revealed the presence of quantities of Ramah chert debitage. In one area, along a bedrock ledge above the present beach, flakes of Ramah chert were found concentrated around the remains of a small cobble hearth. No artifacts were found, nor was evidence of any structures apparent. Another area of concentrated Ramah chert debitage was located near the centre of the beaches at the head of the bay. Five contiguous 2m squares were excavated. The disturbed remains of a Point Revenge period structure were revealed and artifacts from several prehistoric and historic components recovered. The apparent popularity of the area as the site of a summer fishing station and the practice of cutting sods to bank the walls of the houses and fishing stages has significantly jumbled the prehistoric components of the site. A single diagnostic Point Revenge corner-notched projectile point was recovered along with artifacts attributable to both a Groswater Dorset component and a 19th century occupation (Figure 7).

Winter Cove-4 (GcBi-4)

Still the preeminent late Point Revenge site in Labrador, Winter Cove-4 (Fitzhugh 1978) was briefly visited to assess the potential for additional work at the site. Test pits on the beach level containing the structure located small discrete activity areas adjacent to the previous excavations but no other structures attributable to a Point Revenge component.

Blanc Sablon

While in Goose Bay I was fortunate to be able to examine material from a Point Revenge component at L'Anse des Dunes near Blanc Sablon, Quebec, which had been collected by Lawrence Jackson, a former resident of the area. The site was situated on a raised marine beach near the Blanc Sablon airfield and had been partially destroyed by road and bridge construction. Mr. Jackson noticed at least five cobble hearths which had been exposed by wind erosion and left pedestaled on the beach sand. He reported that small amounts of flaking debris (mostly Ramah chert) and calcined bone fragments were found adjacent to the hearths. Jackson's surface collection from the site includes ten corner-notched projectile points (7 Ramah chert, 3 mottled brown cherts whose source is possibly the Port au Port Peninsula in Newfoundland) (Figure 8), a large round celt, an endscraper (black chert), a single square-based biface (Ramah chert) and a distal biface fragment. Both Harp (1964: Plates 1 & 2) and Fitzhugh (1972: Plates 86 & 87) illustrate archaeological collections from Blanc Sablon which include a few Point Revenge specimens. However, the collection and site information from L'Anse des Dunes is the first clear manifestation of the Point Revenge occupation of the Straits region.

CONCLUSION

While analysis of the data gathered from the 1984 field season is still in a preliminary stage, it is apparent that research results have the potential to expand our perceptions of the late prehistoric Indian occupation of Labrador.

Significantly, evidence continues to accumulate to suggest that the late Indian cultures in Labrador were not isolated from the broad cultural traditions that prevailed throughout the greater Northeast. Ramah chert continues to surface in collections from Late Woodland sites in northern New England (Loring 1978; Art Spiess and Steven Cox: personal communications). And the recovery of grit-tempered ceramics at Kamarsuk and exotic cherts at Daniel Rattle indicate that the flow of information and materials is not just one way. Documentation of the large Point Revenge Indian component at L'Anse des Dunes further attests to the pervasiveness of the late prehistoric period Indian traditions in the Atlantic Region. It appears that the site at L'Anse des Dunes is closely related to both the Little Passage complex in Newfoundland (Penney 1981, Evans 1981, 1982) as well ws to the Point Revenge sites in Labrador.

Excavations at early Point Revenge sites, including the Postville sites (Fitzhugh 1978), an unreported component at Hillsbury Island near Nain (discovered by Smithsonian researchers in 1976), and Daniel Rattle, build a strong case for a long *in situ* development for the prehistoric predecessors of the Innu (Naskapi). On stylistic and morphological grounds some aspects of early Point Revenge assemblages (square-based and lanceolate bifaces, triangular and disk-shaped scrapers) are similar to earlier Intermediate Indian complexes.

Furthermore, if we interpret the cache from Area V at Daniel Rattle as evidence of an Early or Middle Woodland manifestation, then that component along with the Road Site-2 (FjCa-14) (Fitzhugh 1972:111, 147-148) from North West River, extend a tenuous bridge between Intermediate Indian and the later Point Revenge occupations.

During the 1982 field season, faunal remains (albeit small samples) were recovered from three Point Revenge components, Satosoak and Daniel Rattle-1, and Daniel Rattle-2. Analysis of this material by Arthur Spiess (1983) revealed that even at coastal locations caribou, not seal, were the most sought after prey. Much larger faunal samples were recovered from this season's research and hopefully more detailed subsistence strategies and seasonality determinations will be forthcoming.

Finally, copious amounts of Ramah chert debitage are a ubiquitous feature of most Point Revenge sites. Considering that the chert is transported for more than 350 km along an extremely rugged coast, we might expect to find evidence of its "value" in the form of conservative lithic manufacture and use strategies (Nagle 1984). The large quantities of Ramah chert debitage at Point Revenge sites, especially in relation to the number of tools recovered, may indicate extensive reworking of the chipped stone tools. However, at some sites, like Daniel Rattle-1: Area IV, the recovery of large numbers of still functional tools and concentrated deposits of Ramah chert debitage imply a conspicuous consumption of raw materials. The earliest Point Revenge components are almost entirely dependent on Ramah chert for the production of stone implements. The Labrador coast north of Nain (including the region where Ramah chert is found) was the exclusive domain of Late Dorset Palaeoeskimo peoples with whom Indian groups must have interacted. I would hypothesize that the use of Ramah chert by the Point Revenge Indians suggests that the procurement of it was neither "expensive" nor "risky" as would be suggested by more frugal consumption. Economic and social interactions apparently link Palaeoeskimo and Point Revenge peoples from an early date. The socio-economic interactions which facilitate the procurement and distribution of resources on this scale would serve to define each group's identity and facilitate the flow of information and materials beyond either group's immediate boundaries. It remains for us to articulate the socioeconomic features of that relationship.

ACKNOWLEDGMENTS

Labrador's reputed harshness is only a feature of its rugged terrain. Any attempt to convey the depth of appreciation owed to the people of Labrador for their hospitality and kindness over the years would run to pages; at the very least it is apparent to me that any definition of northern hospitality would have to include the generosity of Labradorians. Special notice is however due the Baikie family in Nain, who somehow found a few bare corners to host itinerant archaeologists and kept them off the streets at night. No less were the kindnesses extended by Kevin and Monica White and Jim and Maggie Saunders in Davis Inlet, and Charles and Libby Veitch, Doris Saunders, Robin Goodfellow and Dorothy King in Happy Valley/Goose Bay.

The success of the summer's research is directly attributable to the dedication and concern of the field crew, Jeremy Koff, Benjamin Fitzhugh and Sue Romeiser, who carried through the excavations in spite of the incessant onslaught of mosquitoes and blackflies.

I would also like to acknowledge the support of William Fitzhugh and the Smithsonian Institution in making a canoe and motor available to the project and for facilitating survey and testing operations at the close of the field season. Fieldwork was supported in part by a grant and by a permit from the Historic Resources Division, Department of Culture, Recreation and Youth, Government of Newfoundland and Labrador.

REFERENCES CITED

Bird, Junius
1945 Archaeology of the Hopedale Area, Labrador. Anthropological Papers of the American Museum of Natural History 39(2).

Evans, Clifford O.
1981 1980 Field report of Frenchman's Island project. Archaeology in Newfoundland and Labrador 1980, Jane Sproull Thomson and Bernard Ransom, eds., Annual Report 1:88-94, Historic Resources Division, Department of Culture, Recreation and Youth, Government of Newfoundland and Labrador, St. John's.

1982 Frenchman's Island site (ClAl-1) 1981 preliminary field report. Archaeology in Newfoundland and Labrador 1981, Jane Sproull Thomson and Callum Thomson, eds., Annual Report 2:210-225, Historic Resources Division, Department of Culture Recreation and Youth, Government of Newfoundland and Labrador, St. John's.

Fitting, James E.
1970 The Archaeology of Michigan, a guide to the prehistory of the Great Lakes region. Natural History Press, Garden City.

Fitzhugh, William
1972 Environmental Archeology and Cultural Systems in Hamilton Inlet, Labrador. Smithsonian Contributions to Anthropology 16.

1978 Winter Cove 4 and the Point Revenge occupation of the central Labrador coast. Arctic Anthropology 15(2): 146-174.

Gathorne-Hardy, G.M.
1922 A Recent Journey to Northern Labrador. The Geographical Journal 59(3):153-169.

Harp, Elmer
1964 Evidence of Boreal Archaic culture in southern Labrador and Newfoundland. National Museum of Canada Bulletin 193:184-261.

Laliberte, Marcel
1980 Rapport sur l'adaptation, le mode d'organisation et de subsistance des populations prehistoriques de la region de Kanaaupscow. Presented to Service du Patrimoine autochtone, Ministere des Affaires culturelles, Quebec.

Loring, Stephen
1978 Private collections of archaeological materials in Vermont. Ms. on file at the office of the State Archaeologist, Division for Historic Preservation, Montpellier, Vermont.

1983 An Archaeological Survey of the inner bay region between Nain and Davis Inlet, Labrador: a report of 1982 fieldwork. Archaeology in Newfoundland and Labrador, 1982, Jane Sproull Thomson and Callum Thomson, eds., Annual Report 3:32-56, Historic Resources Division, St. John's.

McGhee, Robert and James Tuck
1975 An Archaic Sequence from the Strait of Belle Isle, Labrador. Archaeological Survey of Canada Paper 34. National Museum of Man Mercury Series, Ottawa.

Nagle, Christopher
1984 Lithic Raw Materials Procurement and Exchange in Dorset Culture along the Labrador coast. Unpublished Ph.D thesis, Department of Anthropology, Brandeis University.

Penney, Gerald
1981 A preliminary report on the excavations of the L'Anse a Flamme site (CjAx-1). Archaeology in Newfoundland and Labrador, 1980, Jane Sproull Thomson and Bernard Ransom, eds., Annual Report 1: 95-101, Historic Resources Division, St. John's.

Ritchie, William A. and Don W. Dragoo
1960 The eastern dispersal of Adena. New York State Museum and Service Bulletin 397, Albany.

Samson, Gilles
1975 Contribution to the Study of the Mushuau Innuts and their Territory, Nouveau-Quebec. Unpublished MA thesis, Anthropology Department, Laval University.

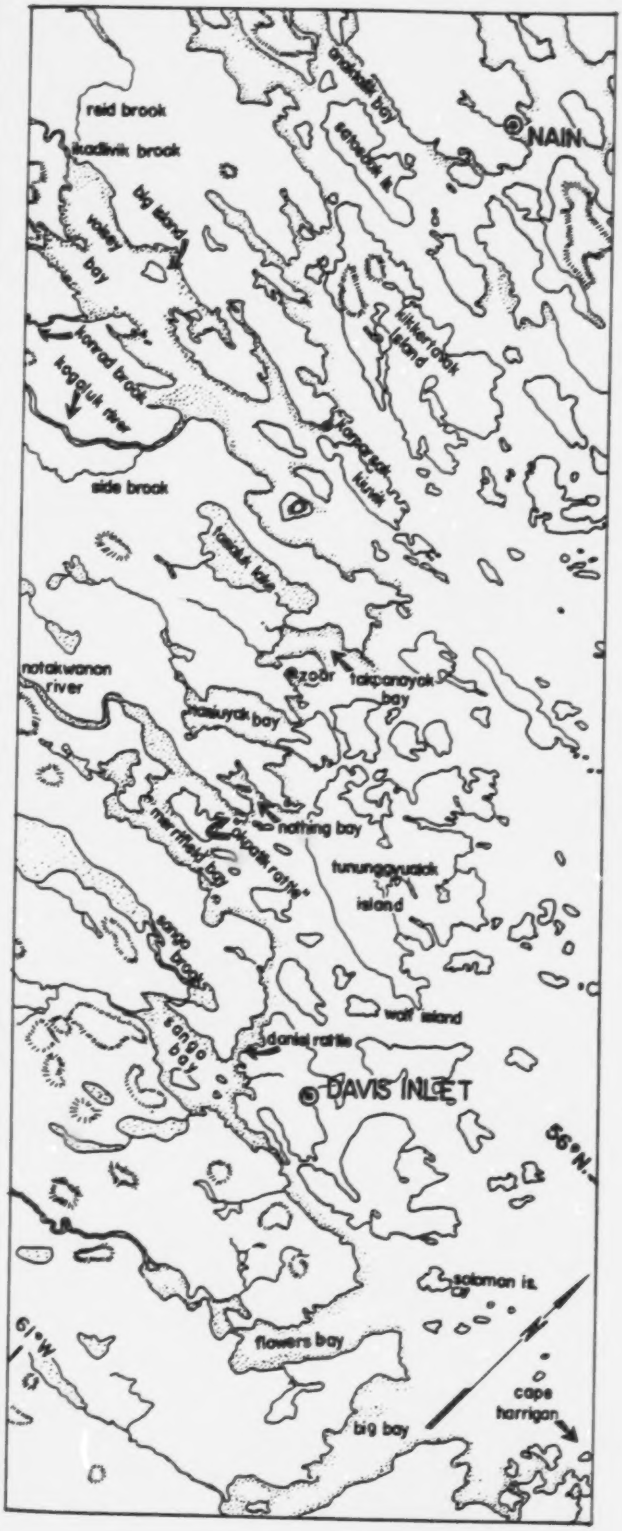
Spiess, Arthur
1983 Report on 1982 faunal collections from Labrador, ms. on file with S. Loring.

Strong, William Duncan
1930 A stone culture from northern Labrador and its relation to the Eskimo-like cultures of the Northeast. American Anthropologist 32: 126-144.

Wright, J.V.
1967 The Laurel tradition of the Middle Woodland period. National Museum of Canada Bulletin 217, Ottawa.

Figure 1

1984 Research area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takpanayak bay
natsuyak bay
nothing bay
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ukpatik rattle
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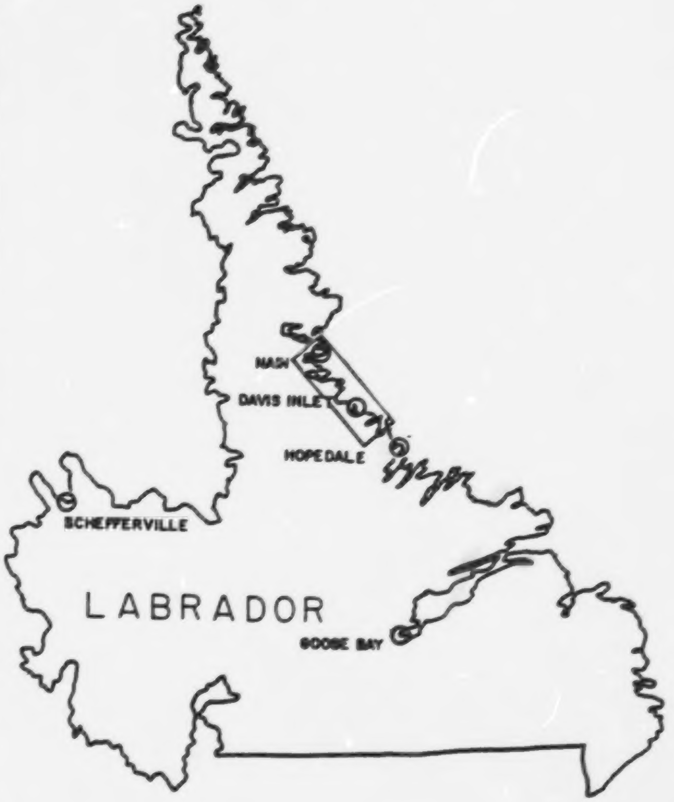
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SCHEFFERVILLE
LABRADOR
GOOSE BAY

Figure 2

Kamarsuk. Point Revenge Indian site located on the raised tombolo beach at the base of the rocky peninsula. The old Settler's house site can be seen at the right of the photograph. View is to the east overlooking Kiuvik Island and characterizes the topography and the vegetation of the inner island region of the central Labrador coast.

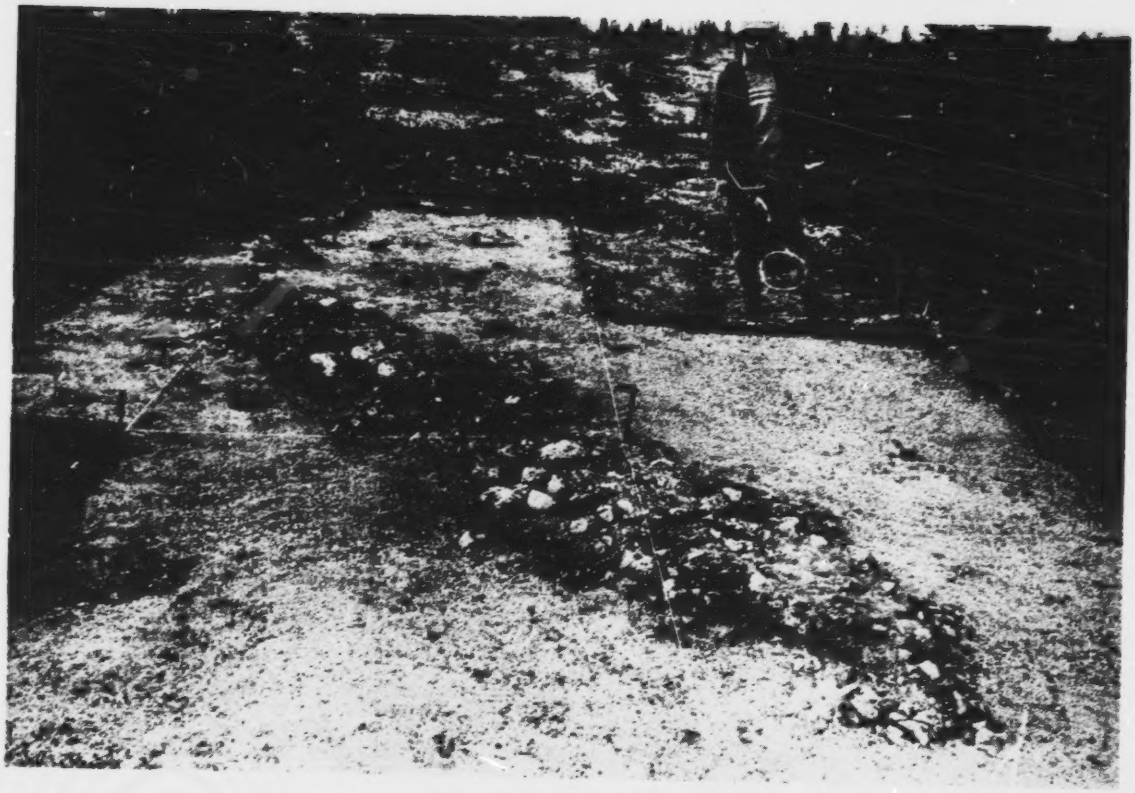
Figure 3

Foundation of one of the mission buildings at Zoar. The mission was established by the Moravians in 1865 and abandoned in 1890. The site is now covered with a dense stand of alders and protected by vicious hordes of mosquitoes.

Figure 4

TOP. Feature 3 at Daniel Rattle-1, Area IV: a long linear, raised central hearth associated with the early Point Revenge component at Daniel Rattle.

BOTTOM. Grave Bay at Webeck Harbour. View to the west with the Ragged Islands in the far distance. Evidence of numerous historic and prehistoric occupations have been found on the shallow raised beaches here.



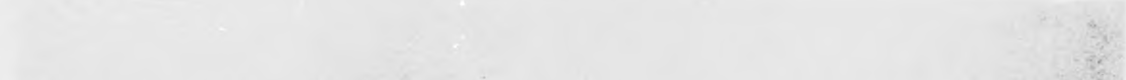


Figure 5

The cache from area V Daniel Rattle-1.

(From left to right, top to bottom): Large corner-notched biface; whetstone; small hemispherical water-worn pebble; chunk of graphite; all the specimens on the 3rd, 4th, and 5th rows are endscrapers. (The corner-notched biface is 13 cms long, 6.5 cms wide).

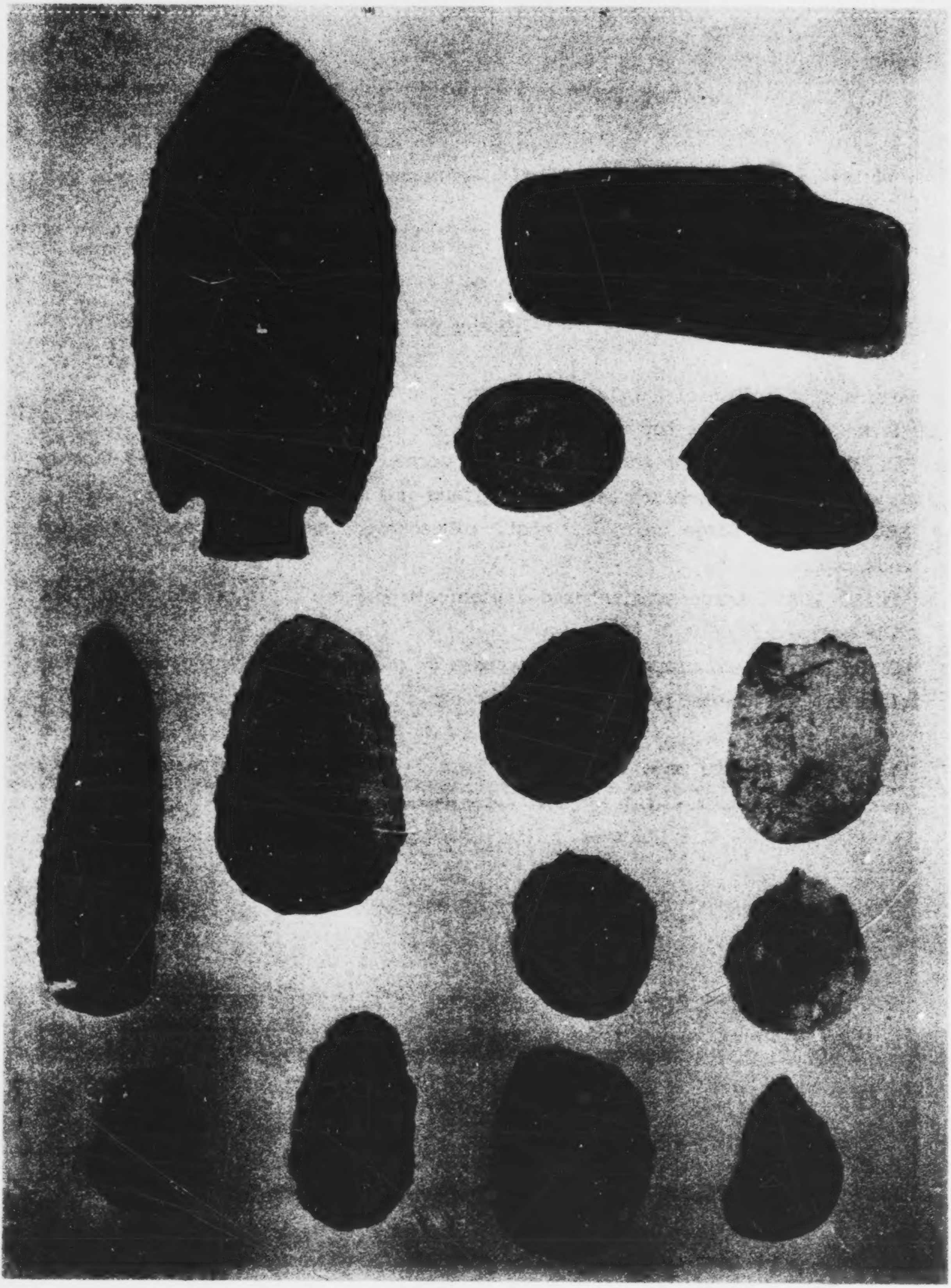


Figure 6

Artifacts from Daniel Rattle-1, Area IV.

(From left to right, top to botton.)

TOP ROW: Lanceolate biface with shallow corner notching; square-based lanceolate biface; convex-based lanceolate biface (thermally altered Ramah chert).

SECOND ROW: Large unifacial tool, sidescraper; unifacial tool, side and endscraper.

THIRD ROW: Large square-based lanceoloate biface; 3 large unifacial tool side scrapers.

BOTTOM ROW: 5 endscrapers; 2 perforators or awls (the last three tools on the right are all thermally-altered Ramah chert).

(All specimens are made from Ramah chert. The thermally-altered artifacts were recovered from within the Feature 3 hearth.)

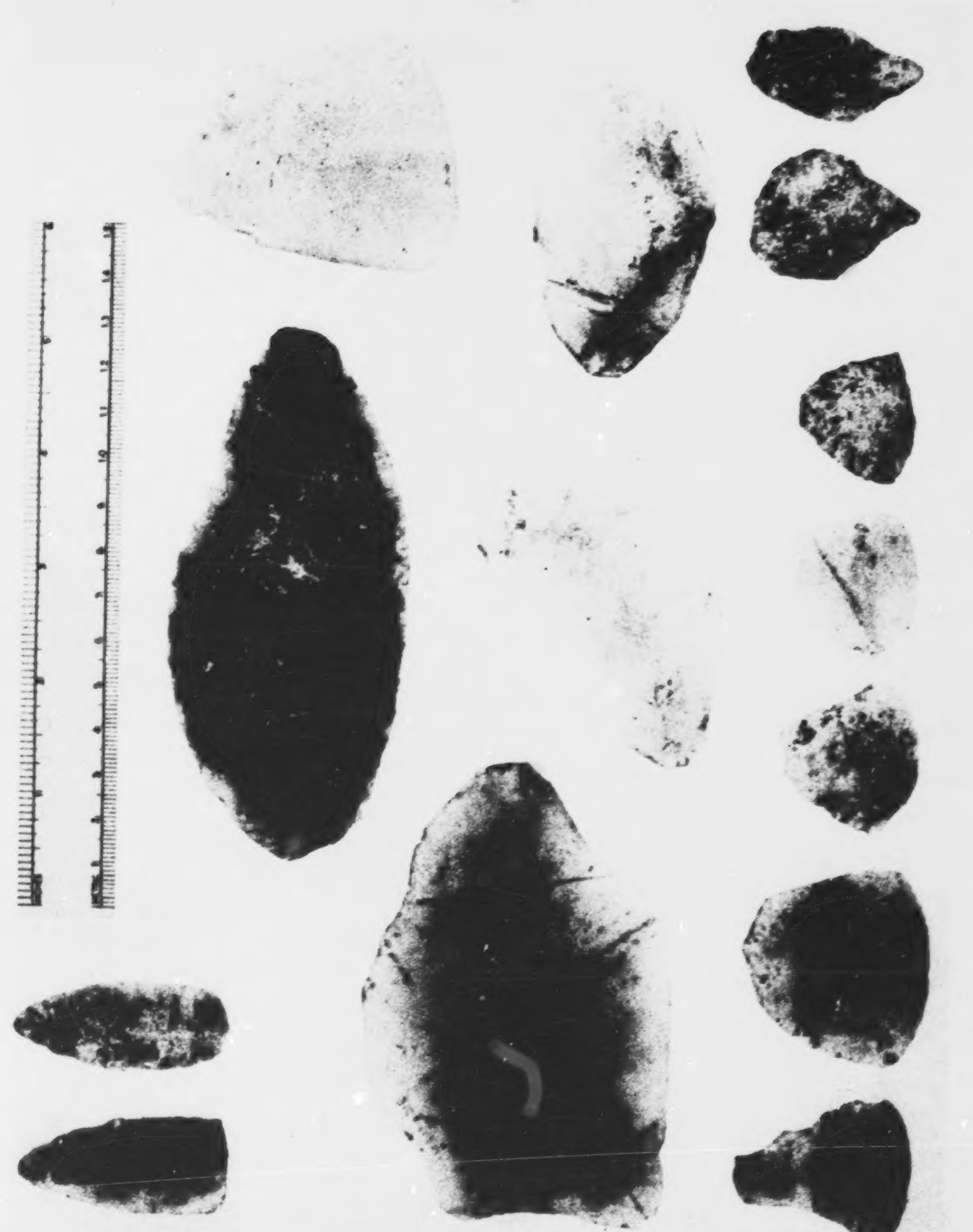


Figure 7

TOP ROW: Collections from Windsor Harbour, recovered from Point Revenge component. Leaf-shaped biface (possibly a Maritime Archaic heirloom) left; square-based lanceolate biface right.

MIDDLE ROWS: Collection from Webeck Harbour. (left to right.): Point Revenge side-notched biface base; Groswater Dorset side-notched biface; European artifacts including a gun flint, ceramic sherds, and kaolin pipestems.

BOTTOM ROWS: Collection from Kamarsuk. (left to right.): Base of small side-notched projectile point; 3 scrapers; 4 grit-tempered prehistoric pot sherds.

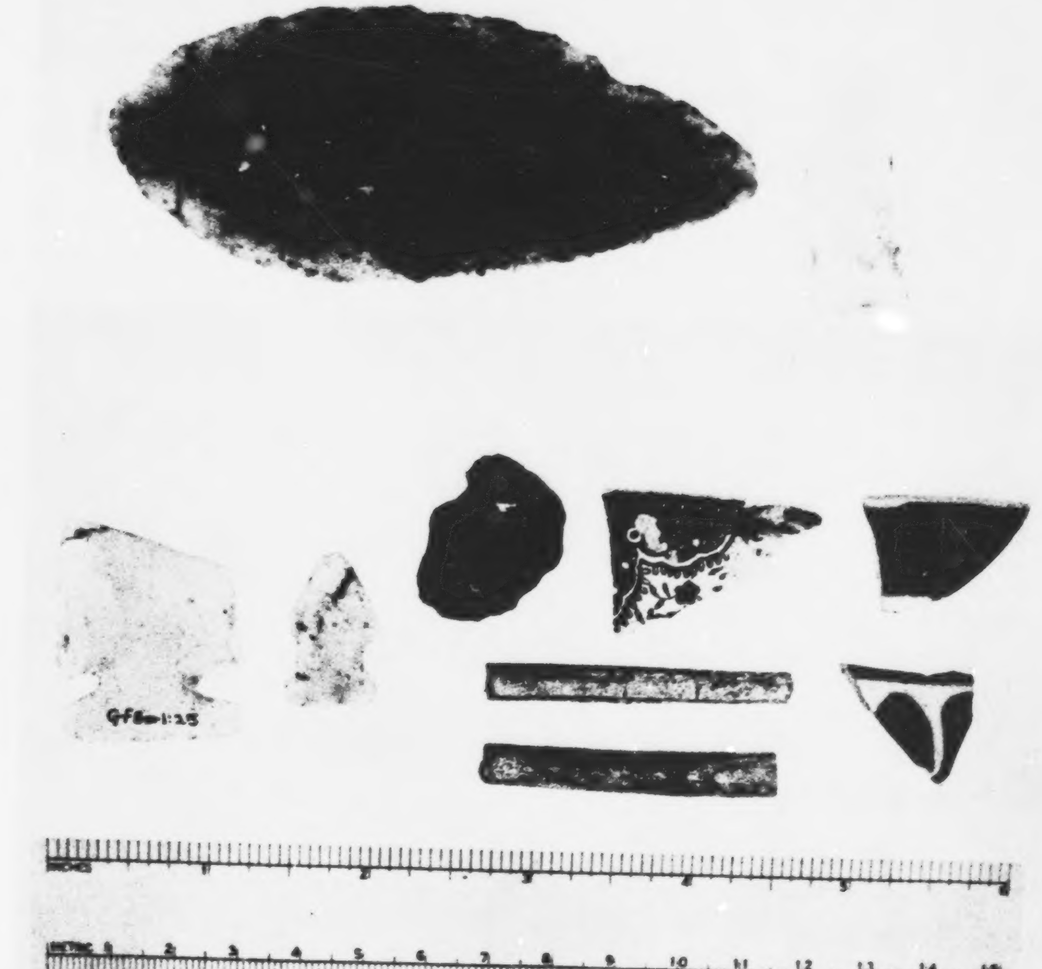

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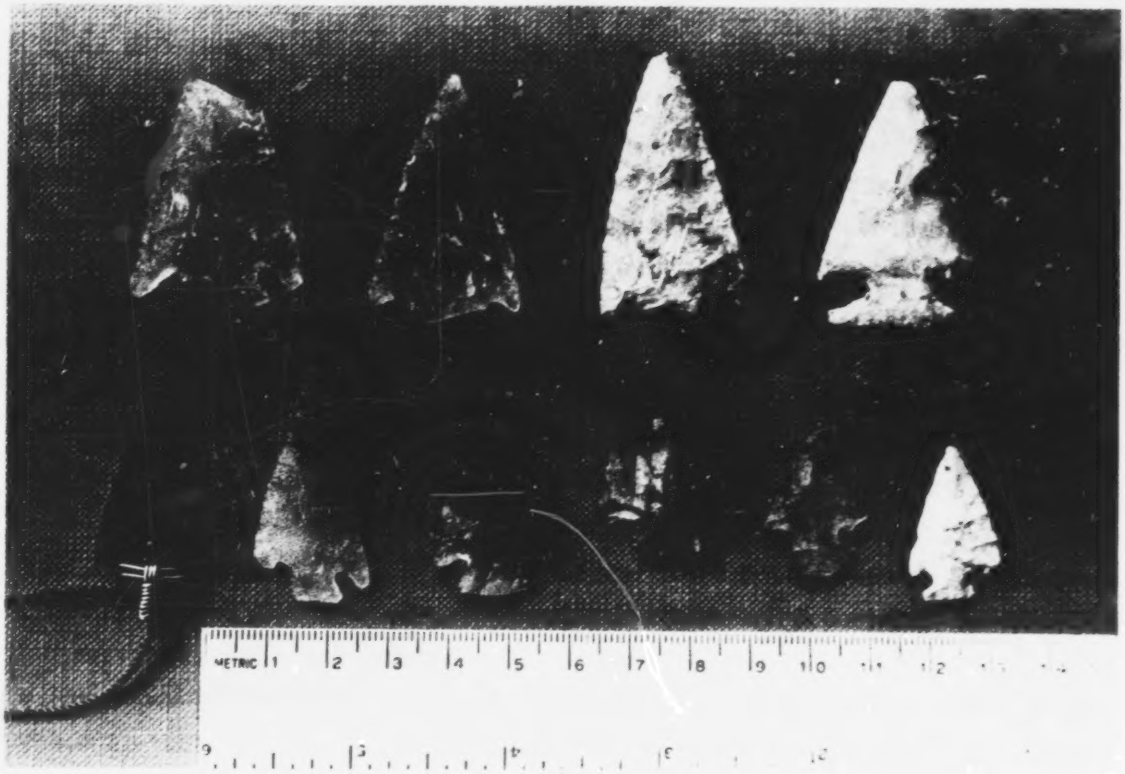
Figure 8

Point Revenge corner-notched projectile points from Blanc Sablon, P.Q. Lawrence Jackson collection.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A SUMMARY OF THREE ENVIRONMENTAL IMPACT EVALUATIONS IN NEWFOUNDLAND AND LABRADOR, 1984

Callum Thomson
Labrador Environmental Services,
St. John's Newfoundland

During 1984, archaeological investigations were carried out to examine and predict the impact upon historic resources by two proposed development projects in Labrador, in accordance with the guidelines established by the Historic Resources Division, Department of Culture, Recreation and Youth, and the Department of Environment. Research permits (84-9, 84-10) were obtained for each investigation from the Historic Resources Division, evaluations were conducted as summarized below and the results filed with the proponents. While nothing of great archaeological significance was found during either of the field surveys, the negative evidence as reported might be of some value to future research in the respective areas. The third evaluation was strictly archival, requiring no fieldwork. As it has not yet been released by the proponent it receives only brief mention.

Historic Resources Assessment of the Mokami Mountain Trail, North West River. (Thomson 1984a).

PROPOSED DEVELOPMENT PROJECT.

The Mokami Mountain recreation trail was conceived by the Mokami Regional Development Association as a method of promoting tourism in the western Lake Melville area by providing a 10 m wide, 50 km long winter trail from the outskirts of North West River to the base of Mokami Mountain at the Sebaskachu River. The direction followed is that previously chosen and surveyed as an access road for the proposed Brinex mine at the Michelin uranium site south of Kaipokok Bay, 120 km north of North West River.

STUDY AREA.

The trail begins at the north edge of town in an area already greatly disturbed by an airstrip, refuse dumps, sand and gravel quarries, vegetable gardens, wood cutting operations, trails, periodic forest fires, and house lots, and terminates in the valley of Sebaskachu River between Micmac Hill and Mokami Mountain. For most of its length, the trail maintains an elevation of between 30-50 m above sea level, occasionally rising to 100 m and falling to 10 m, and runs in straight, several kilometre-long segments paralleling the shore of Lake Melville. Apart from an area of muskeg near the south end, most of the trail runs through thick boreal forest composed of spruce, balsam fir and tamarack on a ground cover of caribou moss. Where the trail dips to a lower elevation, crosses a stream or boggy area, or where fires have recently occurred, the undergrowth includes sphagnum moss, thick tangled willow, birch, alder and poplar. Among the principal ground-hugging plants are dwarf birch, willow and Labrador tea, various flowering weeds and vascular plants, and berries.

The trail has been cut as far as Old House Brook, about 15 km from North West River. As the cutting work was done during the winter of 1983-4 when snow was deep on the ground, the trail, though highly visible due to its straight 10 m width and semi-cleared nature, is now extremely hard to walk. Undergrowth has not been cut, stumps up to 1.5 m high remain, and partially burned cut timber is piled every 20 m or so. In addition, spongy mosses and a great depth of soft duff act to retard pedestrian progress. Beneath the duff, wherever tested, glacially deposited sand was encountered.

Streams and rivers meander slowly down the gentle hillsides into Lake Melville, cutting easily through the sand deposits. The shallow waters just offshore are dotted with shoals, emerging islands and scattered boulders, making boat progress hazardous close to shore. Local informants state that the land has risen relative to sea level perhaps as much as 1 m in the past 50 years, a belief which is partially verified by inaccuracies on even 10 year old NTS maps.

Study of the reconstruction of the North West River area paleoenvironment (Fitzhugh 1972) indicates that the proposed route of the Mokami Trail follows a course which would have been well above the contemporary shoreline during the earliest period of prehistoric occupation, at about 3500 years ago, and therefore remains above potential subsequent occupations of the shorelines as the land has risen relative to sea level about 15 m since 300 B.P. (before present).

While the mouth of North West River has seen discontinuous occupation by several unrelated cultural groups in the past 3500 years, it is only since the early 18th century that Europeans have resided in the region. French (early 18th) and British (early 19th century) traders set up trading posts in the town, gradually attracting the Innu population who moved to the south shore of the river. Today, the main subsistence focus has shifted from trapping back to fishing, and many settler families in North West River have built summer cabins on islands and along the shore of western Lake Melville from which tomcod, trout and salmon are caught, seals can be netted and, in spring and fall, migrating geese and ducks can be obtained. Trap lines are still maintained for small fur bearers, and black bear are regularly trapped or shot. In open areas, berries are found in great abundance.

METHODOLOGY

A picture of where prehistoric and historic sites might be located was formed from a perusal of available site inventories, maps, reports and informant information. Fieldwork was to be comprised of a boat-assisted survey of the shoreline and islands between North West River and the Sebaskachu, a foot survey of the Sebaskachu as far as the point at which the trail would cross the river and including the area around the first rapids, 8 km above the lake.

RESULTS

Land Use

Due to technological innovations such as rifles, nets, traps and motorized transportation means, exploitation of the natural resources in western Lake Melville has spread away from the principal location in prehistoric times, at the mouth of the North West River, in all directions around the end of Lake Melville. Resources are now harvested with a degree of ease and dependability rendered by modern hunting, fishing and trapping equipment, mechanized transportation, and the means thus afforded to move quickly from one resource site to another as the seasons change and as/if resources fail. In addition to year-round local foods, our agriculturally knowledgeable society has also provided residents of North West River and outlying cabins with the ability to grow a wide variety of fruit and vegetable crops. Aided by root cellars, freezing, canning and smoking abilities, and cash incomes, local residents are able to store a great deal of the spring, summer and fall harvests of all resources into and through the resource-poor winter and can exchange some of the catch for cash or trade items.

Prehistoric occupants of western Lake Melville would have been able to exploit most of the resources presently available in the region with possibly the addition of more abundant and more varied sea mammals in the early part of the period, but they were denied many of the technological and economic innovations which make year round residence in the North West River area possible and desirable. Small seasonal camp sites dating from 3500 B.P. are numerous on the north shore of the North West River and probably represent brief summer residences of family groups principally engaged in exploitation of salmon and trout. Other game such as small mammals, birds and seals would have played a minor role in providing food and other needs at this time of year. In fall, winter and spring, movements would have been made to areas of greater resource concentration such as the Mealy Mountains or west into the interior for caribou in fall and winter, eastern Lake Melville for seals in winter and spring, and Groswater Bay for harp seals in spring and fall and other sea mammals in winter (Fitzhugh 1972). While emergency stocks of surplus foods may have been stored frozen or smoked, it is more likely that families moved from one resource-rich area to the next as the season progressed depending on expected migrations of mammals, fish and birds for fresh food.

Survey Results

Three days were spent surveying various parts of the Mokami trail and other selected locations. No prehistoric sites were found and the several Innu camp locations encountered were considered too recent to be recorded as informative historic sites. That no significant sites were found can be attributed to the high level of recent disturbance at the southern terminus, already described above, the inappropriateness of the elevation of the trail for habitation or any intensive exploitation which might have left material remains, the nature and height of vegetation on the trail and, less likely of course, an incomplete survey of the full length of the trail. An accidental meeting between the survey boat and a shoal and the unforeseen difficulty involved in walking the trail together with discouraging interviews with informants in the field precipitated a revision of the planned survey. As a result, 2-3 km of the trail were walked and tested at the North West River and Old House Brook termini and several km of shoreline were walked and tested between North West River and the Sebaskachu River. In addition, the first rapids up the latter river and much of the north end of the town of North West were thoroughly inspected, all without results. On this basis and given the fact that the trail is designed only for winter travel, which would not impact any subsurface archaeological deposits, I reported to the proponent (Thomson 1984a) that the probability of habitation, hunting, fishing or any other types of prehistoric or early historic sites being situated along the Mokami Trail is extremely low and the impact upon any that do exist, given the winter nature of the trail, would be virtually nil.

CONCLUSION

No new sites of any significance were found on the surveyed parts of the Mokami trail and vicinity. The terrain covered by the trail is unlikely to have been of interest to any prehistoric or historic residents or visitors to western Lake Melville as the elevation of the trail has always been considerably higher than the lake shore in the 3500 years since initial occupation of the area. As the most abundant and dependable resources in the region - salmon and trout - are most easily taken at the North West River narrows, seasonal habitations would have concentrated there, as they do today on a permanent basis.

Assessment of evidence garnered from literature sources, local informants, and the survey suggests that the trail will not directly impact any historic resources in its present form, i.e. as a winter trail. While no archaeological remains were found in the highly disturbed area where the trail exits the town of North West River, Fitzhugh's research (1972) indicates that special attention must be paid to this southern terminus should the trail be upgraded for all season use. An additional recommendation was made that the townspeople of North West River should consider undertaking a study to assess the extent of remaining cultural deposits within the town limits - both prehistoric and historic, to devise ways of avoiding further disturbance to these remains, and to develop a plan for presenting the history of North West River to residents and tourists through the media of information panels, reconstructed habitation sites (particularly as regards the trading establishments), and perhaps a permanent interpretation facility. The historic resources and local knowledge of the area present a magnificent opportunity to display and compare the ways of life of its inhabitants over a 3500 year span; this opportunity should not be lost.

Historic Resources Evaluation of km 57-68 of the Trans-Labrador Highway, Ashuanipi River, western Labrador. (Thomson 1984b).

PROPOSED DEVELOPMENT PROJECT. The proposed route for 57-69 km is a northeastward extension of the section of the Trans-Labrador highway currently under construction between the city of Wabush and the Ashuanipi River (see Thomson 1983). The terminus at km 68 was judged by the Department of Transportation to be more conveniently located than the original terminus at km 57 for eventual continuation to Twin Falls, either directly eastward (Proposed Route) or north via Esker and then east utilizing the BRINCO road (Alternative Route). When completed, the highway will link via 700 road kilometers the Quebec mining town of Fermont, the western Labrador towns of Labrador City and Wabush, the central Labrador communities around Churchill Falls and the coastal municipalities of Happy Valley, Goose Bay, Mud Lake, North West River and Sheshashit at the west end of Lake Melville, and provide direct road access to and from the major centres in Quebec and beyond. The highway, including the 11 km now under study, will be an all-season dirt road spanning a 6 m width within a 30 m right-of-way (at the time of preparing this summary, construction has actually reached km 68 and has halted for the winter).

PROJECT AREA

Many parts of the terrain traversed by the km 57-68 extension had already been disturbed by construction of roads, cabins, railroads, airstrips and a power transmission line. Most of these are related to the original construction and continuing maintenance of the Quebec North Shore and Labrador Railway (QNS & LR), built to transport Labrador and Quebec iron ore to the Gulf of St. Lawrence, or have taken advantage of its presence. The region through which the survey cut passes is generally flat, wooded and boggy, climbing gradually from an elevation of about 525 m above sea level at the river to 570 m at km 68. At the request of the Historic Resources Division, a corridor roughly 3 km on either side of the proposed center line was to be investigated. This area contained a stretch of shoreline of the Ashuanipi, two eskers, and some heavily wooded hills up to 630 m a.s.l. According to Ives et al. (1976), deglaciation and final drainage of glacial lakes in the area would have been completed by about 6000 years ago, leaving the topography and water levels much as they are today. The main geographical feature within the corridor is the south to north flowing Ashuanipi River system, which rises in the extreme southwest corner of Labrador, flows through the Ashuanipi and Menihek Lakes into Lake Petitsikapau and, ultimately, into what is now the Smallwood Reservoir which drains through the Churchill River into Lake Melville. As it runs through the corridor, the Ashuanipi is about 200 m wide, shallow, and swift as it drops over three sets of rapids. The banks, rising gently a few metres from the water, are often wet, prone to flooding, and thickly covered with spruce and tangled alder, willow and birch shrubs. Where the land is drier and a bit higher, black spruce on a ground cover of caribou moss predominates; on burned over eskers, tamarack and dwarf shrubs are asserting themselves; in boggy ground, dwarf willow and birch, berry plants, Labrador tea and thin black spruce are the main plants, while on the string bogs and marshy ground sphagnum moss, low shrubs and berries are most common.

Game species and other animals and birds observed in the development area during the survey included black bear, moose, and caribou (tracks), fox (dens), beaver (dams), ptarmigan (droppings) and osprey. The abundance of fishermen, particularly concentrated on the lakes accessible from the new highway (km 6-57), attest to the presence of speckled trout, lake trout, grey trout, land-locked salmon, pike and whitefish. Other game which would have been sought by permanemt or migratory residents in the area in the 6000 or so years since deglaciation and glacial lake drainage include hare, porcupine, spruce grouse, and a variety of ducks, geese and their eggs for food, while muskrat, wolf, ermine, martin, weasel, mink, otter and lynx were available for their furs. Other food resources available include berries, some barks, roots, and other edible plants and fungi.

It might seem from this broad inventory that food and fur resources may have been abundant in the past and in combination with the availability of water travel routes into, through and out of the area, that the study area might have been attractive to prehistoric and historic native peoples and to European trappers at certain times of the year. However, both contemporary and historic observers have emphasized the volatility of game populations; it might be more realistic to assume therefore, that because of climatic fluctuation, prolonged periods of inclement weather, forest fires, slow regenerations of vegetation, and other unknown factors, the interior has never been able to locally sustain large numbers of game in dependable seasonal patterns. For this reason people might have tended to avoid or at least not highly favour this part of the interior. William Fitzhugh, working at North West River (1972), found that while that excellent summer fishing location had attracted at least 8 different cultural groups over a period of 3500 years, the fact that they were different and unrelated suggests a constant drift of people entering Labrador from the south and west, replacing those who had failed to adapt to the rigours of the Labrador interior. This difficulty in adapting to an existence in the cul-de-sac created by the Labrador Sea and Ungava Bay and the arctic tundra bordering these waters, would be compounded further in western Labrador by periodic forest fires, unexpected snow, and unseasonal break-up or early freeze-up, thus preventing the accessibility or scheduled arrival of a critical game species. In a part of the country where seasonal alternatives to the principal food resource are few or non-existent, these hazards could be fatal and would lead to extirpation of local cultural groups, avoidance of the area, or migration to more dependable-looking regions. This postulated sporadic and light use of the region was noted during the survey of km 6-57 of the same highway (Thomson 1983). Only with the measure of security offered by trade goods and permanent settlements did the interior see increased exploitation during the historic period, although new ecological imbalances were then introduced through overhunting and slow regeneration.

METHODOLOGY

Prior to commencing the survey, literature sources, site inventories, maps and aerial photographs were studied and previous informant interviews (Thomson 1983) reviewed. While the nature of the project - a narrow road corridor - seemed to preclude the need for a survey of any but the immediate proximity of the highway route, the Historic Resources Division requested that a 6 km wide corridor be investigated in case the proposed alignment was later altered and to ensure that any areas thought likely to contain historic resources and made more accessible by the presence of the highway be located. To these ends, the proposed route and all territory within the 6 km corridor were overflown by helicopter several times over three days, approximately half of the proposed survey cut line was walked and tested, and any areas displaying historic resources potential were walked and tested.

RESULTS

Land Use

Prior to the survey, it was anticipated that such evidence as portage routes, overnight campsites, lookouts and hunting stations, might be found in suitable locations within the development area. That few cultural remains were found can be attributed to the small size of the corridor, possibly to the extensive recent ground disturbance, and most likely to the nature of the region. Within the study area, the feature most likely to have attracted consistent utilization is the Ashuanipi River. However, as no major obstacles such as falls or unnavigable rapids occur within close proximity, no reason exists for any users of the river to have halted within the development area and thus leave cultural material or abandoned structure as proof of their passing. Minor attractions such as high prominences and eskers might have been used for increased visibility, ease of travel and relief from flies.

A survey of ethnographic sources confirmed that the study area was marginal to Innu trapping and hunting territories, although the Ashuanipi was a favoured travel route to and from the Michikamau region. Previous investigations into prehistoric land use have demonstrated that the central Labrador/Quebec peninsula does not appear to have been intensively utilized in the earlier period either (Macleod 1967; Samson 1978; Thomson 1983).

Survey Results

Only one site - a small historic campsite - was found during the survey. Lure Creek-1 (FgDn-1) is located on a lightly vegetated ridge 11 m in elevation above the west side of Lure Creek, about 600 m from the creek's exit into the Ashuanipi River. The site is composed of a small cobble and rock hearth on a gravel covered blowout overlooking the Lure Creek valley to the north, east and south, and a broad flat plain to the west. The good visibility of at least 1 km in all directions, the elevation of the location where it will catch any breeze and thus discourage flies from sharing the camp, and the lack of vegetation probably account for the site's location. The meandering creek and broad inlet probably attract ducks and geese in spring and fall and may have had a trout population, although the exit to the Ashuanipi is now constricted by road construction. It is most likely that this site results from a single occupation during the fairly recent period, perhaps dating to several decades ago. No historic refuse was found in the vicinity and no lithic or other debitage was found in test pits or on the surface.

Other areas foot surveyed intensively included the east bank of the Ashuanipi and its tributary mouths, a recently burned over esker at the north end of the corridor, the summit of Emeril Hill 2 km to the east which offers a broad view of the entire corridor, and most of the corridor center line and intersecting ridges and streams, all without any positive results.

CONCLUSION

That more sites were not found within the development area may be explained by a variety of circumstances including lightness of human occupation of the region suggested by previous archaeological findings and ethnographic accounts, regional undependability of seasonal food resources and lack of alternative foods in the case of failure of the principal resource, no physical reasons such as falls or unnavigable rapids to require overnight or longer residence on this stretch of river, and the marshy or heavily wooded nature of much of the road corridor.

The proponent was advised that it is extremely unlikely that the development will have any adverse impact upon historic resources in the region, either directly through construction-related activities or indirectly through access via the highway to historic or prehistoric sites of significance. No further studies were recommended.

Archaeological and Historic Resources within the Hibernia Land and Resource Use Study Area (Thomson 1984c).

This report was commissioned by Mobil Oil and submitted to CBCL Limited, St, John's. It summarizes findings obtained from archival research for inclusion within the Hibernia Land and Resource Use Study regarding historic and prehistoric sites in six local impact areas being considered for development. As public hearings have not yet been held in connection with these proposed development sites, no details can be provided here. It is expected that after the hearing process is completed, the full archaeology component study will be available to the public from Mobil Oil.

REFERENCES CITED

Fitzhugh, William W.

1972 Environmental archeology and cultural systems in Hamilton Inlet, Labrador. Smithsonian Contributions to Knowledge 16. Washington, D.C.

Ives, Jack D., Harvey Nichols and Susan Short

1976 Glacial history and paleoecology of northeastern Nouveau-Quebec and northern Labrador. Arctic 29(1):48-52.

Macleod, Donald

1967 Report on an archaeological survey of the Churchill River drainage, central Labrador. Conducted on behalf of the Archaeological Survey of Canada, Ottawa, June-September, 1967. Report on file at the Newfoundland Museum, St. John's.

Samson, Gilles

1978 Preliminary Cultural Sequence and Paleo-Environmental reconstruction of the Indian House Lake region, Nouveau-Quebec. Arctic Anthropology XV(2):186-205.

Thomson, J. Callum

1983 Historic Resources Evaluation of the Proposed Road Corridor from Wabush to Ross Bay, Labrador. Report prepared for the Department of Transportation, Government of Newfoundland and Labrador, St. John's.

1984a Historic Resources Assessment of the Mokami Mountain Trail, western Lake Melville, Labrador. Report prepared for the Mokami Regional Development Association, North West River, Labrador.

1984b Historic Resources Evaluation of km 57-68 of the Trans-Labrador Highway, Ashuahipi River, Western Labrador. Report prepared for the Department of Transportation, Government of Newfoundland and Labrador, St. John's.

1984c Archaeological and Historic Resources within the Hibernia Land and Resource Use Study Area. Report for Mobil Oil prepared for CBCL limited, St. John's.

PROGRESS REPORT ON THE MARINE EXCAVATION
AT RED BAY, LABRADOR
A SUMMARY OF THE 1983 FIELD SEASON

Willis Stevens
Parks Canada

INTRODUCTION

Since 1978 Parks Canada's Marine Archaeology Unit has been carrying out the excavation of a shipwreck thought to be the San Juan, a Spanish Basque galleon documented to have sunk in Red Bay, Labrador in 1565. The excavation is part of a multidisplinary research project being undertaken in cooperation with Memorial University of Newfoundland, where the anthropology department, under the direction of Dr. James Tuck, is conducting the excavation of related shore station remains.

The 1983 field season was the most ambitious to date. Its objectives encompassed a wide range of archaeological goals which included disassembly of the ship's port stern, starboard stern and starboard midship areas, as well as excavation below the hull. Other objectives involved above hull excavation in the bow area and continuation of the faunal survey in Red Bay harbour.

STRUCTURAL DISASSEMBLY

In 1983 approximately one-third of the uncovered integral hull was disassembled (Figure 1). Recovery began in the stern with the removal of the aft-most futtocks or frames, followed by ceiling planking, y-shaped floors, external planking, the stern knee and finally the ship's keel. Most of these timbers were quite large and heavy and could only be freed safely with the aid of specially designed hydraulic jacks. The timbers were then brought to the surface using a large lifting crane. Once the stern disassembly was completed work began on the starboard disassembly. The basic approach was to begin at the upper extremities of the integral hull and work in towards the ship's center line. The third futtocks were the first timbers recovered, followed by, in sequence, the inner hull stringer, the spaces, spacer planks, waterway fragments and second futtocks. Removal of the associated external planks completed the disassembly.

BELOW HULL EXCAVATIONS

These excavations resulted in the recovery of timbers and artifacts from the ship's upper works and of a small boat or chalupa that was probably used by the Basques for hunting whales. The excavations also provided the opportunity to completely record the stratigraphic profile of the bottom as it related to the ship's final deposition.

Port Stern

Excavations below the hull in the port stern area revealed very few timbers from the ship's upper works. This was primarily due to the fact that the ship was lying on its starboard side and when collapsing began most of the structure would have fallen to that side. It is also likely that much of the port stern was above water, thus making it accessible to immediate salvage. Further, the possibility of ice damage cannot be ruled out. Whether one or all of these factors were responsible, the result was a definite lack of structural elements from the port stern upper works.

The number of artifacts found beneath the port stern, including faunal remains, was also extremely limited. Among the total were 19 cast parts, 7 whale bones, 2 oyster shells, 1 ceramic sherd and 1 complete wooden bowl. The paucity of artifacts under the hull in this area coincides with the absence of structural timbers. It would appear that whatever reasons account for the lack of structure were also responsible for the lack of artifacts.

Although lacking in structural and artifactual information the port stern excavation did reveal an interesting sequence of stratigraphic development (Figure 2). Directly below the external planking was a layer of organic sediments (peat mixed with silt), followed by a large concentration (60+ cm) of barnacle shells. These deposits were lying directly on top of the pre-wreck harbour bottom. Such a stratigraphic formation could only have occured if the barnacles were deposited shortly after the grounding of the ship, thereby preventing the build up of other deposits on the pre-wreck bottom. This opens the possibility that some of these barnacles may have been attached to the ship's hull before sinking.

In addition to the depositional sequence, an examination of the stratigraphic record revealed some interesting observations regarding ship movement, particularly the grounding sequence. The initial contact with the bottom rocks appears to have been made by the ship skeg - a short length of keel which projected aft beyond the stern post serving to protect the rudder if the ship went aground (Kemp 1976:807). This resulted in a cracked skeg as well as some damage to the bottom of the rudder. It also appears that the ship bounced, at least once, forming a depression in the sub-bottom rock. The bounce caused the ship to pass over a one metre section of harbour silt which was subsequently covered by falling barnacle shell.

Starboard Stern and Midship

In contrast to the port stern area the starboard side revealed a significant number of timbers from the upper works. Many of these were softwood planks, which had fallen beneath the side of the listing ship and were later covered by the collapsing hull. Other softwood timbers recovered included several beams and various unidentified timbers. There were also numerous oak timbers, including skids, fenders and wales. Perhaps the most significant find in regards to structure was a remarkably detailed etching of a ship at anchor. It had been etched on the interior side of a softwood plank, and is complete with structural perspective, masts, rigging, anchor lines and a small boat moored to the stern. The etching is indeed a work of art offering a rare glimpse of a sixteenth-century ship as seen through the eyes of someone who was actually there.

The ship's rudder, which had fallen beneath the starboard stern, was excavated and recovered for detailed study. It was over six metres in length and was fashioned from a single piece of oak. Found near the rudder was a gun port lid which matched the single port located in the transom.

A large variety of artifacts was also collected, most important of which were a number of navigational instruments: compass, sand glass, possible log reel and log chip and a binnacle (Figures 3-6). The compass was housed in a circular wooden case with brass gimbals around the outside. A circular wooden lid for an outer box was found nearby. Careful excavation of the interior of the compass revealed portions of the glass facing, fragments of the iron needle, the brass pivot pin mounted in a lead sheet, and a small brass cap that fit over a card on top of the pivot. The sand glass, measuring 20 cm high and 12 cm wide, is likely to be a watch glass. It was complete with the exception of the glass bulbs. A unique and as yet unidentified instrument may represent an early version of the log chip, used in conjunction with the log line and reel to estimate the speed of the ship.

All of these instruments were found in close association with each other and with a binnacle, (a small chest to house the instruments). This remarkable find represents the earliest surviving example of a ship's binnacle. Its overall dimensions were 60 x 60 cm and in effect it was like a large wooden cube. There were two openings or doorways, both of which functioned with sliding doors. One of the openings had a lubber's point, a small v-shaped notch used to align the compass with the ship's masts or stem.

Other artifacts below-hull included several complete pulley blocks of types not previously found on the site. Three knightsheads and seven pairs of heart blocks with corresponding iron straps and rope strops were also recovered. Given the total lack of deadeyes it is believed that the heart blocks were used to maintain tension on the main shrouds. Numerous leather shoes, rope fragments, glass pieces, ceramic sherds, walnut shells, pewter fragments and a single coin were all retrieved during excavation. Two long wooden tool handles, one of which may be from a harpoon, were also found. The metal ends of these handles had corroded so badly that they could not be identified or recovered.

One of the largest and more significant artifacts recovered below the hull was a small boat. It measured approximately eight metres in length and was built with a two piece keel scarfed in the middle. The stem and stern post were scarphed to the ends of the keel and both contained rabbets to accept the hull planking. The boat was carvel built with the exception of the top two strakes which were clinker built.

Internally the boat was framed out with floors and futtocks averaging eight centimeters square. Single waterway holes had been cut through the floors directly over the keel. Risers were found with notches cut out to accept the thwarts and a mast step was recovered. Parts of gunnels revealed single thole pin holes for rowing although the exact method of oar attachment is still uncertain. The entire boat appears to have been made from oak with iron fasteners. Because of its completeness and location, directly beneath the ship's starboard stern, it is thought to have gone down with the large vessel.

The starboard side stratigraphic sequence was not unlike that of the port side. The principle stratum was a layer of barnacle shells; however it was not as concentrated as on the port side due to the completeness and list of the hull. The barnacles were located directly on top of the pre-wreck bottom of silt which was considerably thicker than the port side. This was a result of the ship's keel pushing eastward through the silt, creating a snow plow effect, prior to grounding. The accumulation of the silt prevented the build-up of other deposits below-hull.

BOW EXCAVATION

The objectives of the bow excavation included the removal of casks, the exposing of the integral hull structure for mapping, the recovery of bow-related artifacts, and excavation peripheral to the integral hull to recover disarticulated structural pieces.

A total of 25 partial and complete *barrica* cask assemblies were excavated within the bow area. Incomplete remains of smaller capacity casks were also recovered as well as a few examples of staves from substantially larger casks, tentatively identified as being from a *pipa*. All casks were stowed horizontally in a fore-aft position with the bung stave uppermost. Contrary to the stern and midship areas where three distinct tiers of casks were found, only two tiers were found in the bow deposit. Whether this means that fewer casks were stowed in the bow or whether there has been more disturbance in the bow has not been determined. The evidence does indicate that the casks were stacked in rows with each successive tier offset and between the casks below it, forming an interlocking network. This was precisely the pattern encountered in both the midsection and stern cask deposits.

The ground or bottom tier casks were supported between rows of ballast stones which lay directly on the ceiling planking and the futtocks. This served the two-fold purpose of supplying the needed ballast for the proper trim of the vessel, and to prevent the sideward rolling of casks. However, the amount of ballast used was surprisingly large. A two metre by two metre excavation unit yielded between 645 and 854 kg of ballast stone. The most probable explanation for the extra ballast is that it was needed to compensate for the heavy stern structure common to vessels of the sixteenth century.

Artifacts recovered in the bow area included the ever present roofing tile fragments, coopering debris, whale bone, and leather shoes. The shoes were found in association with several small spacers located between futtocks just above the first deck level. These spaces would have made a convenient shelf for the storing of personal possessions. Similar spaces bearing personal possessions were found on the Tudor Warship Mary Rose (Rule 1982:198). Just beyond the solid hull structure on the starboard side a complete and articulated whale flipper was uncovered. Other less common artifacts included a number of wooden tool handles, pieces of cork bungs, a wooden scoop, a small bever cask, and ceramic vessel fragments.

FAUNAL SURVEY

The faunal survey involved testing areas of Basque artifact concentrations identified in 1982 and continued excavation of a small boat initially found in 1980 (Figure 7). Additionally, two exploratory trenches were excavated between the wreck site and Saddle Island. These trenches were a follow-up to the study of near shore resources initiated in 1980 with the excavation of the shore trench.

In 1982 four areas of artifact concentration were identified, two of which were tested in 1983 (Area C and Area D). Area D consisted of an intensive bottom cover of ceramic roofing tiles and whale bone. It was located on the north side of the harbour directly across from Saddle Island. A test trench measuring five metres by one metre was excavated with the aid of a water dredge. Whale bone was encountered immediately, just below the bottom silt. The entire trench proved to be a pavement of whale bone made up mostly of skulls and some ribs. The density of the remains was such that it became impossible without mechanical assistance to continue the excavation. Such concentrations of whale bone, particularly complete skulls which are all but absent on the Saddle Island side of the harbour, will no doubt help us to better understand the carcass disposal practices of the Basques.

Area C, similar to Area D in bottom cover, was also tested. It was located several hundred metres north of Area D along the same shoreline (Figure 7). Prior to the actual testing a concentration of oak timbers and ballast rock was discovered. The timbers included what appeared to be integral framing, with futtocks similar to those found on the wreck site. Further probing and fanning of the silt revealed the mast step. This new wreck represents what is believed to be a second sixteenth-century galleon very similar in size and construction to the initial wreck discovery. Further testing is planned in 1984. (Eds.: see Ringer, this volume).

The small boat found in 1980 was partially excavated this year so that measurements and photographs could be taken. The boat lay upside-down in less than two metres of water. Although this boat has not been positively identified its dimensions closely resemble those of a pinaza, a small coastal sailing vessel larger than a chalupa, and also used in the whale fishery. It is hoped that further excavation of this boat in 1984 will provide a correct identification.

The two near-shore exploratory trenches were excavated with the objective of collecting data which might supplement the information obtained during the excavation of the shore trench in 1980-81. These trenches were located east and west of the shore trench and revealed some interesting comparisons. The east trench was notable not so much for the material recovered but for the lack of it. The trench was virtually free of whale bone (10), in contrast to the shore trench. This occurrence seems to be directly related to the shore station activity and the positioning of ovens or tryworks. The west trench, on the other hand, was located off-shore from a nearby oven complex and contained a large number of whale bones (119), particularly flipper and vertebrae elements.

Stratigraphically, both trenches were basically similar to the shore trench. However, in both instances there was a thinning out of the fish bone deposit (cod-splitting discard) which was the predominant layer in the shore trench stratification. This would indicate that the cod-splitting was concentrated in the area of the shore trench and based on the large number of billets also recovered, probably on some form of wharf structure. More excavation will be carried out in 1984 to investigate this possibility.

FAUNAL ANALYSIS

The analysis of faunal remains has been ongoing since the initiation of the Red Bay Project in 1978. It is being conducted by Dr. Stephen Cumbaa, a zooarchaeologist with the National Museum of Natural Sciences. For the whale bone remains the analysis is focusing on the species hunted, the population proportion of each species, and the age and size of individual whales. For the non-whale remains the principal aim is to determine the types of fauna, both imported and local, that the Basques were using as food-stuffs. According to Cumbaa, nearly 1500 whale bones have been examined from surface and underwater deposits, representing 45 to 50 individuals. Two species have been identified: the North Atlantic right whale and the bowhead. The majority of whales were large (40-45 ft.), sexually mature individuals. There is little evidence of calf mortality; no more than one or possibly two individuals appear to be in the 0-1 year group.

An important outcome of the faunal analysis has been the discovery that a significant number of whales (approximately half of the sample) taken by Basques were bowheads. This finding will have a direct bearing on previous estimates of right whales killed by the Basques, since most estimates have assumed one species taken and are based on numbers extrapolated from cargos of oil. As bowheads produce significantly more oil and whalebone (baleen) than right whales, the estimates of numbers of individuals killed could be reduced. Furthermore, the apparent regular presence of bowheads in the Strait of Belle Isle in the mid-16th century helps clarify aspects of their distributional history which were unclear (Cumbaa 1983:5).

SUMMARY

The 1983 field season was a complete success from the point of view of both disassembly and excavation objectives. The entire stern and most of the starboard side were dismantled and many timbers raised for recording. Excavation below the hull resulted in a large number of important artifacts being recovered as well as recording of significant timbers from the upper works. The starboard bow was completely excavated and mapped as was the remaining cargo of casks. The ship's rudder was raised and a small boat or *chalupa* was also brought to the surface for recording.

The faunal survey of Red Bay harbour was continued and resulted in the discovery of a second wreck, tentatively dated to the sixteenth-century. Excavation of another small boat, a *pinaza*, was started and preliminary indications are that it may also date to the sixteenth-century.

Excavation and the survey will continue in 1984 with the major emphasis on completing the dissassembly of the wreck.

REFERENCES CITED

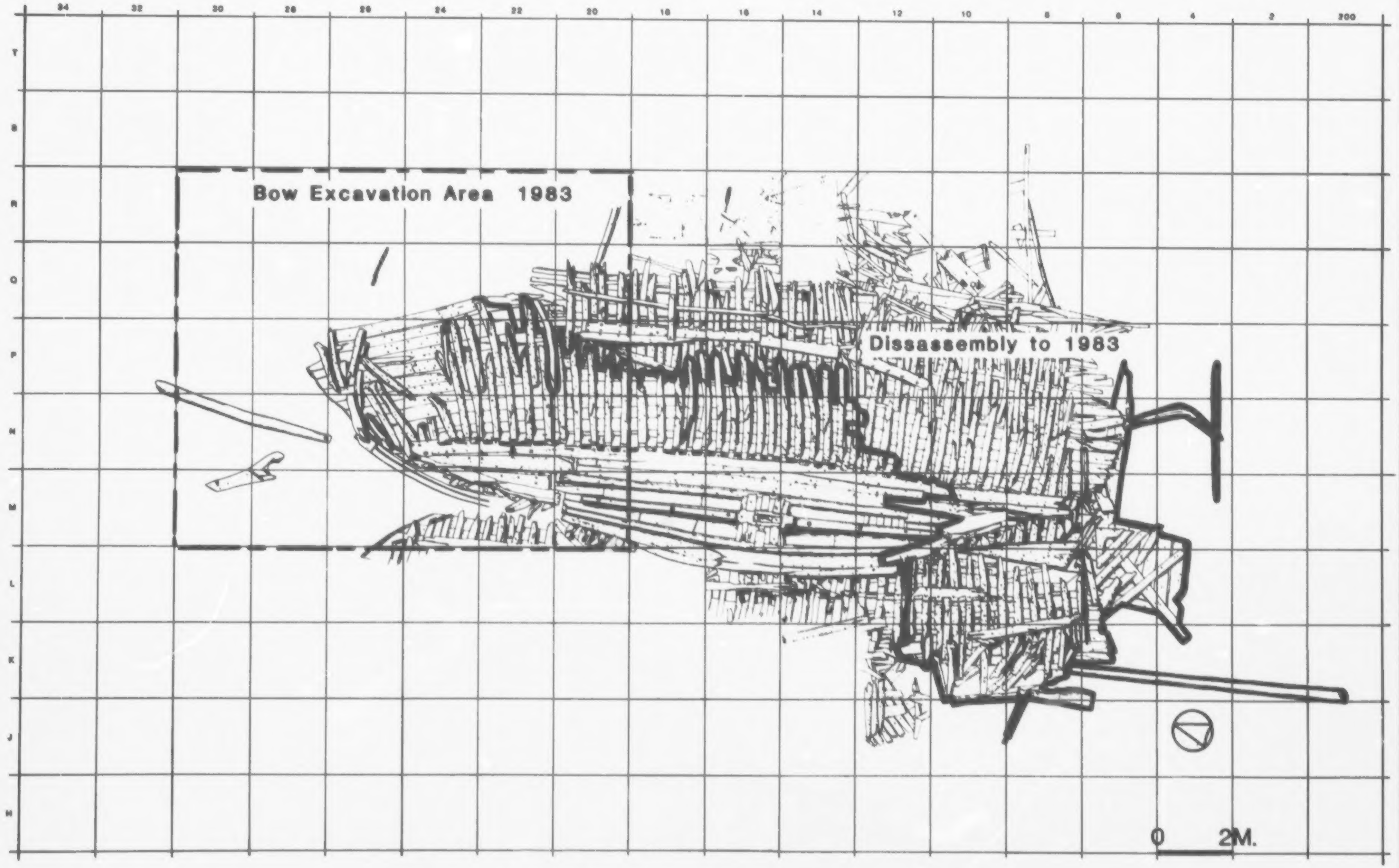
Cumbaa, Stephen
1983 "Archaeological Evidence of 16th Century Basque Whaling Fishery at Red Bay, Labrador". Proceedings of right whale workshop, International Whaling Commission, Boston, June 1983, Doc. 35-RW-11. 1976.

Kemp, Peter
1976 *The Oxford Companion to Ships and the Sea*. Oxford University Press, London.

Rule, Margaret
1982 *The Mary Rose: The Excavation and Raising of Henry VIII's Flagship*, Conway Maritime Press, London.

Figure 1

Structural plan of wreck site showing bow excavation area and area disassembled to 1983. (Drawing by R. Hellier).



Bow Excavation Area 1983
Dissassembly to 1983
34
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
200
T
S
R
Q
P
N
M
L
K
J
H
0
2M.

FIGURE 2

Stratigraphic profile along line 8 of the site grid in the stern area of the wreck. (Drawing by W. Stevens and R. Hellier).

Layer	Description
1	Sandy silt
2	Organic silt
3	Rock, silt, peat, woodchips, shell
4	Peat, twigs, silt
5	Peat, woodchips, silt, barnacle, shell
6	Barnacle shell
7	Silt, peat, woodchips, shell
8	Woodchips
9	Peat
10	Peat, twigs, silt
11	Crushed shell
12	Sandy silt
13	Rock, crushed shell

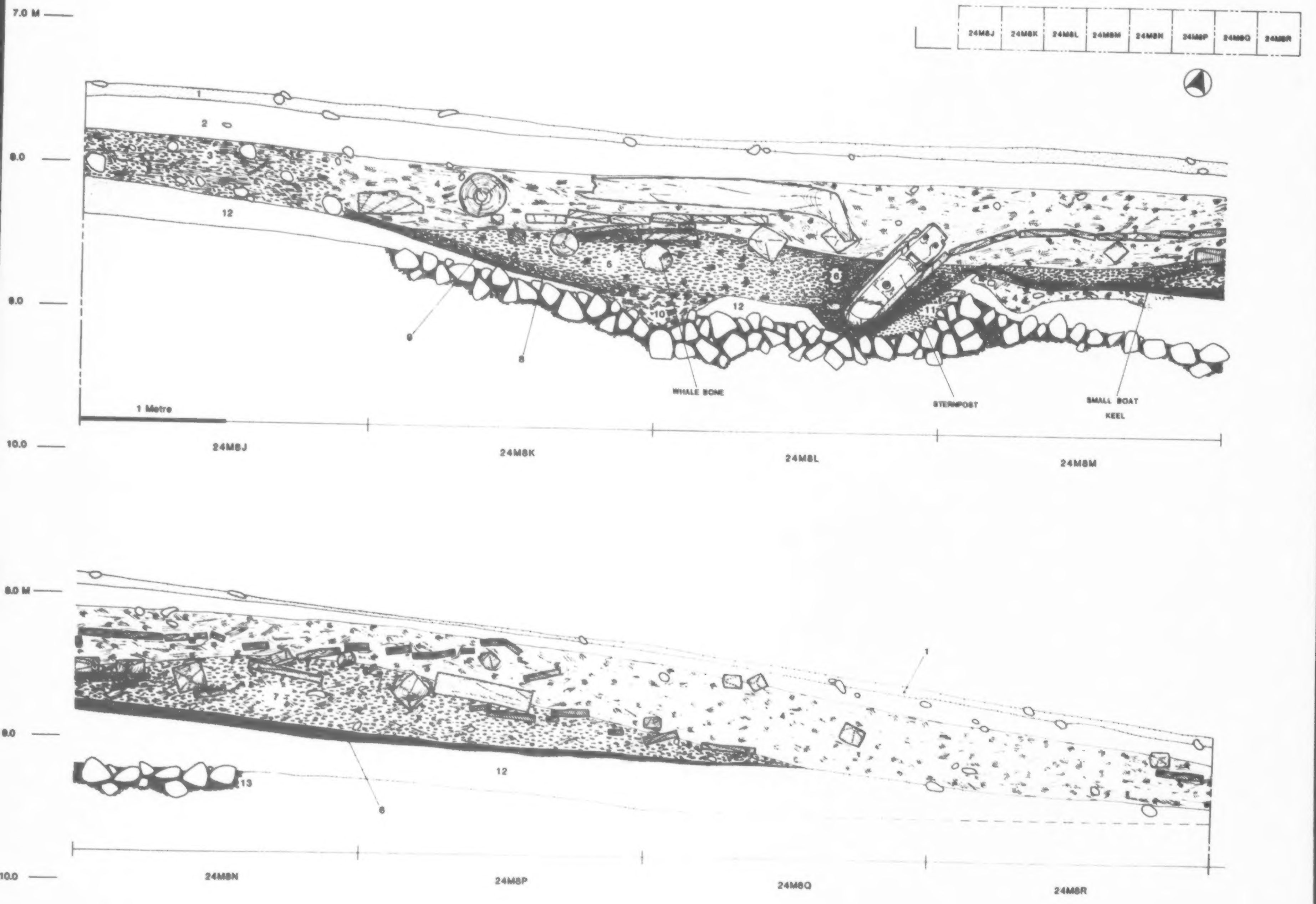
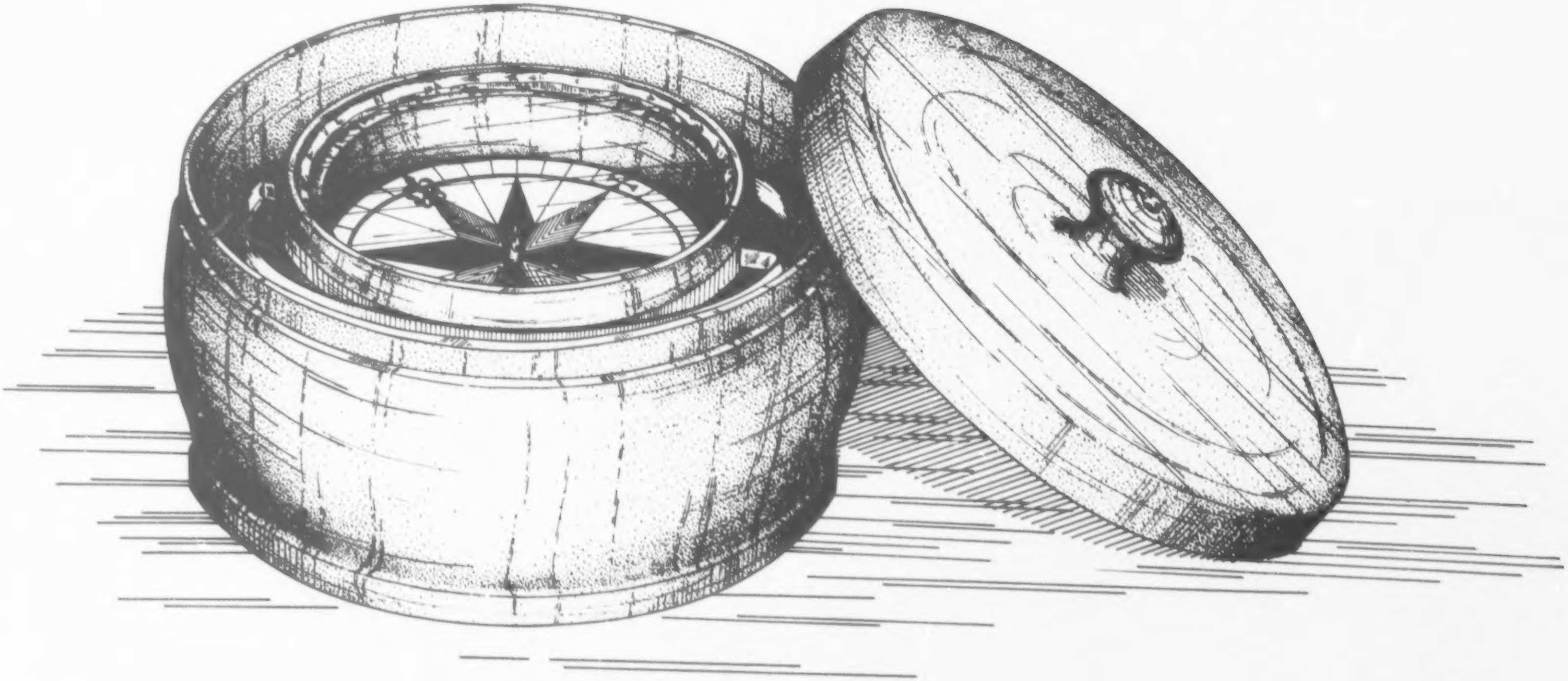

7.0 M
8.0
9.0
10.0
24M8J
24M8K
24M8L
24M8M
24M8N
24M8P
24M8Q
24M8R
1
2
3
4
5
6
8
9
10
11
12
WHALE BONE
STERNPOST
SMALL BOAT KEEL
1 Metre
8.0 M
9.0
10.0
7
12
13
6
1

Figure 3

Reconstruction of ship's compass. (Drawing by C. Piper).



COMPASS & CASE RECONSTRUCTION
ACTUAL SIZE

C. PIPER

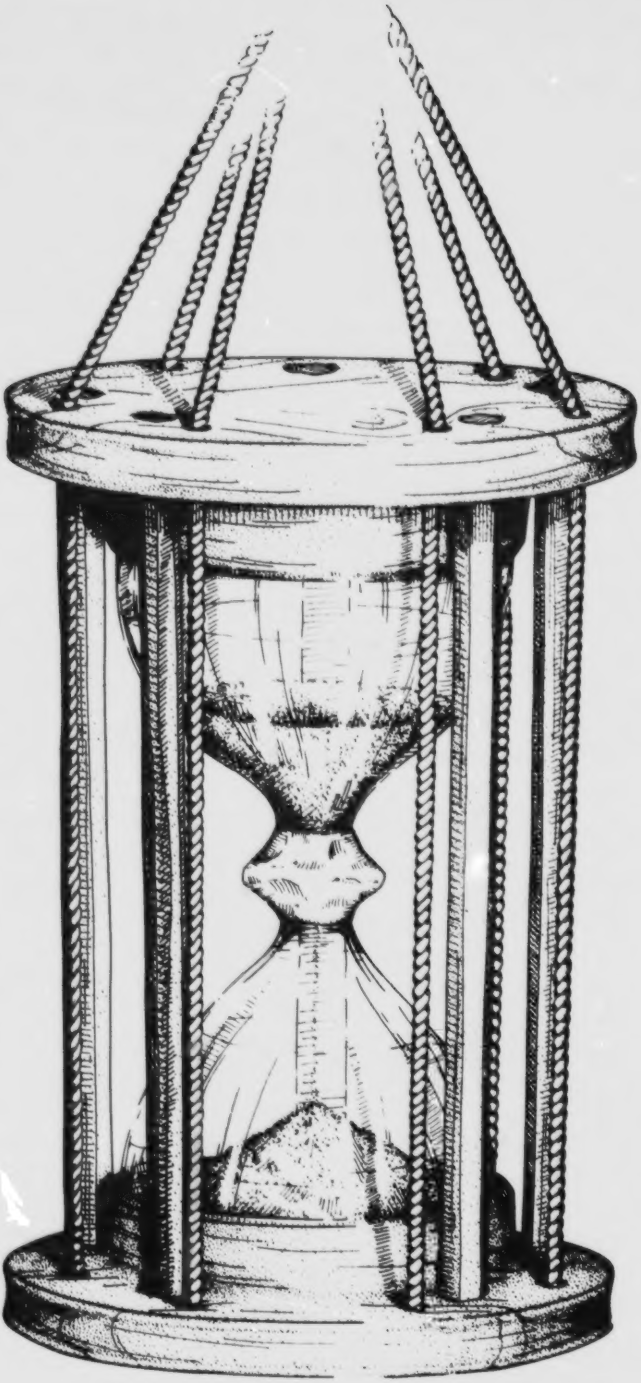
13 06 84

24M10P23-5

3cm

Figure 4

Reconstruction of sand-glass. (Drawing by C. Piper).

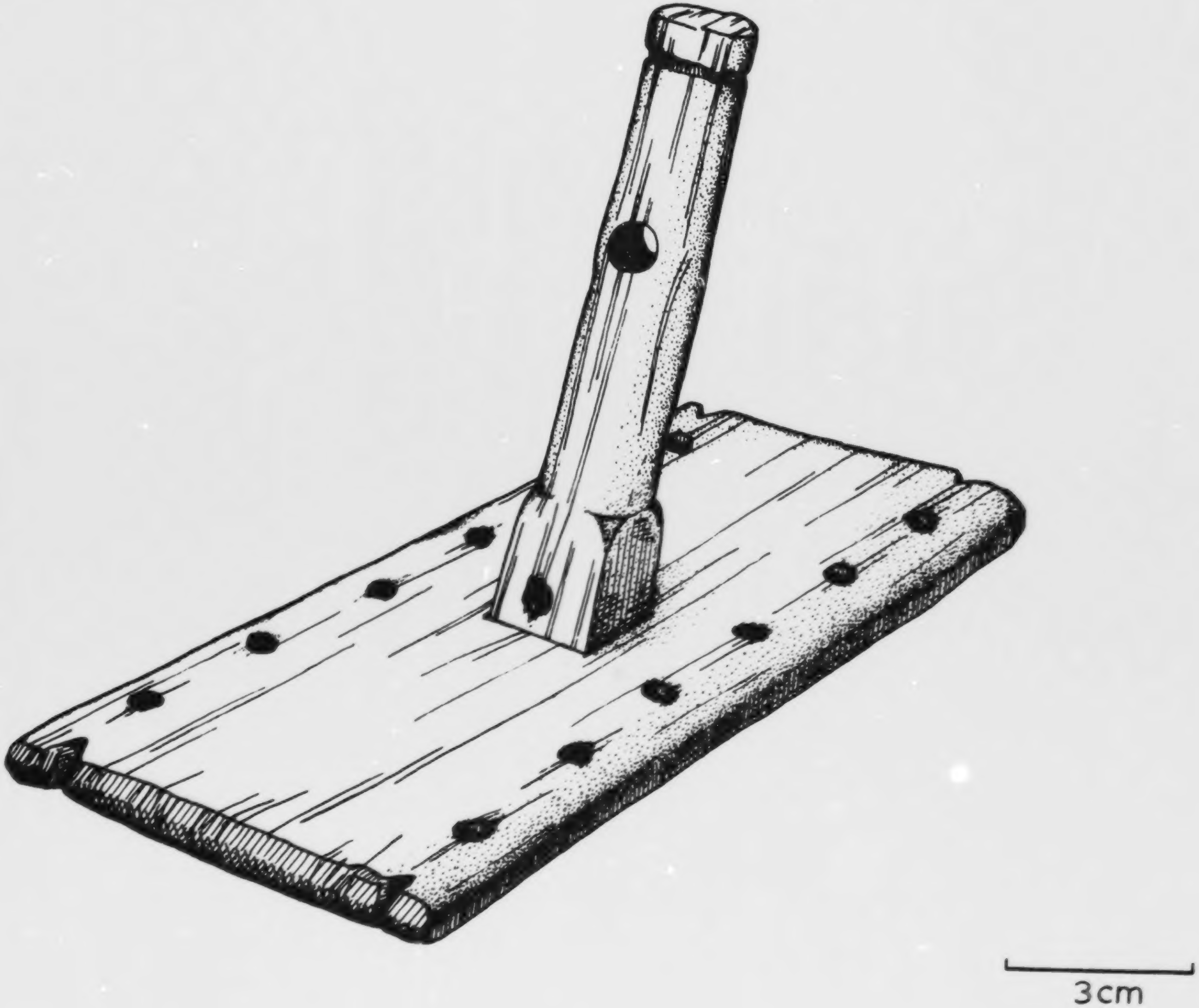


Sandglass Reconstruction
06·12·84
C. Piper

24M10P21-1 (-2)

Figure 5

`As found' drawing of a possible log chip. (Drawing by C. Piper).

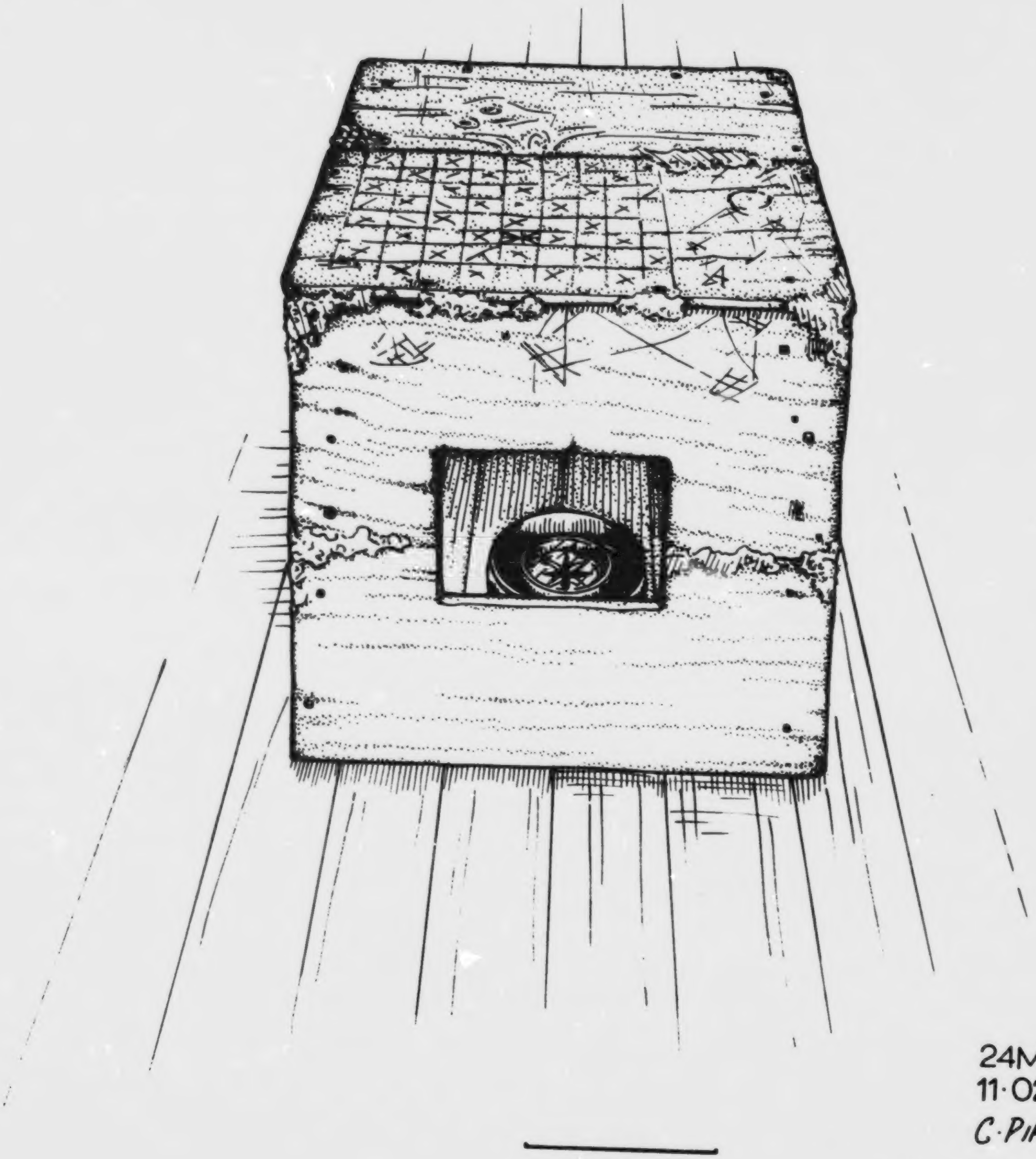


C.PIPER
01·11·83

Figure 6

Reconstruction of binnacle. (Drawing by C. Piper).

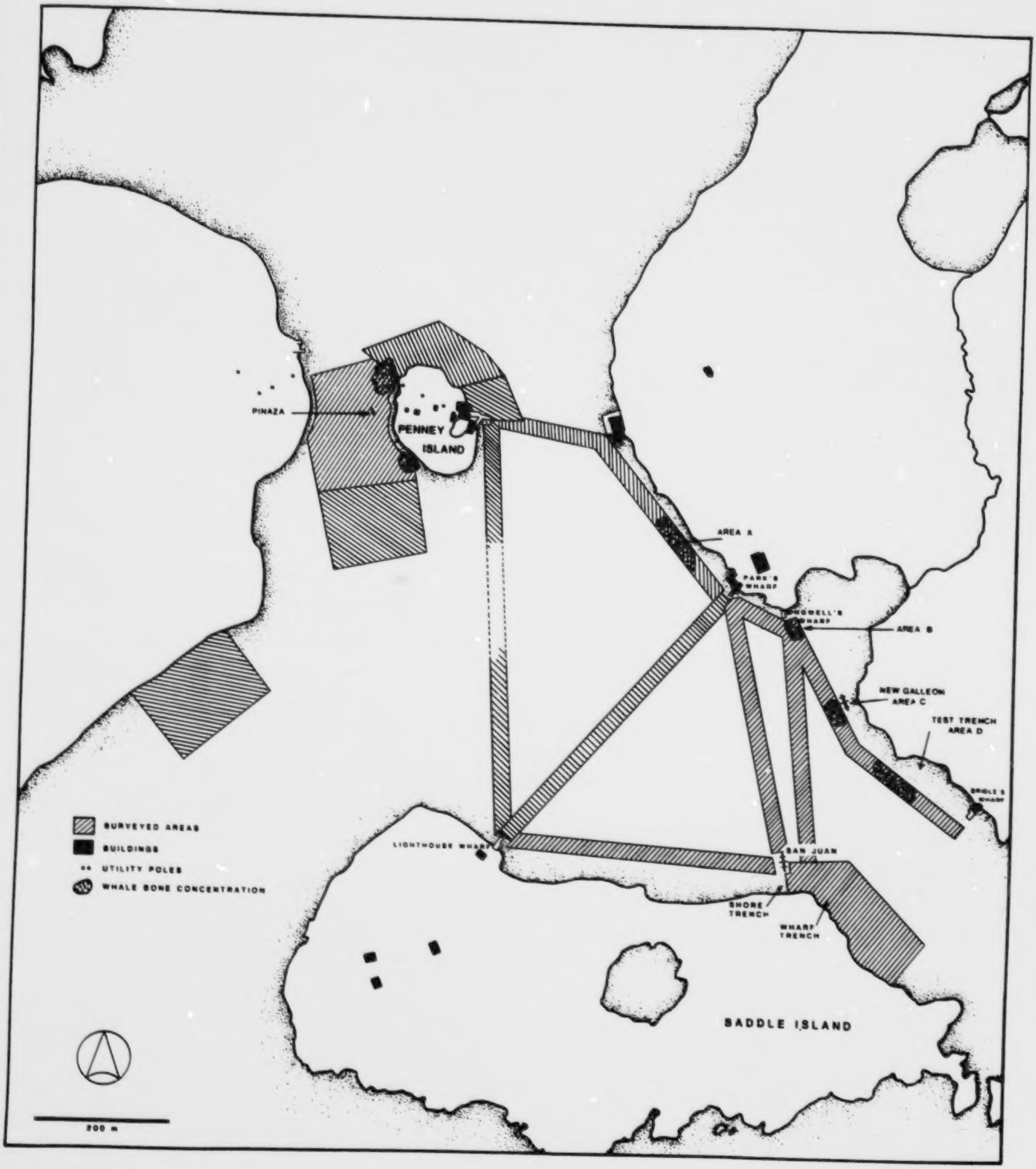
Binnacle Reconstruction



24M10P22-
11·02·85
C. PIPER

Figure 7

Survey map of Red Bay harbour showing location of wreck sites and areas surveyed. (Drawing by W. Stevens and R. Hellier).


PINAZA
PENNEY ISLAND
AREA X
PARK'S WHARF
HOWELL'S WHARF
AREA B
NEW GALLEON AREA C
TEST TRENCH AREA D
BRIDLE'S WHARF
SAN JUAN
LIGHTHOUSE WHARF
SHORE TRENCH
WHARF TRENCH
SADDLE ISLAND
SURVEYED AREAS
BUILDINGS
UTILITY POLES
WHALE BONE CONCENTRATION
200 m

A SUMMARY OF MARINE ARCHAEOLOGICAL RESEARCH
CONDUCTED AT RED BAY, LABRADOR:
THE 1984 FIELD SEASON.

James Ringer
Parks Canada

INTRODUCTION

During 1984, Parks Canada's Marine Excavation Unit, under the direction of Robert Grenier, undertook the last field season of major excavation on the suspected Basque whaling vessel San Juan. This underwater excavation is part of a joint project with Memorial University of Newfoundland to investigate the remains of the sixteenth-century Basque whaling enterprise in the southern Labrador coastal village of Red Bay. An archaeological team from Memorial University, led by Dr. James Tuck, is currently unearthing the remnants of the Basque whaling station on Saddle Island in Red Bay harbour. Parks Canada has focused its work on the submerged remains of the San Juan, (Figure 1) which sank in 1565, and on other underwater traces of Basque whaling activity. The underwater investigations are conducted under an agreement with the Province of Newfoundland and Labrador.

The 1984 field season, the final one of a six year excavation program, was the most ambitious to date. Employing fifteen full-time divers, 1649 dives were made totaling 3549 hours. The major thrust of this research was the completion of excavation and disassembly of the remainder of the starboard side, followed by excavation below the hull. Also excavated was a substantial area around the periphery of the intact hull structure. As the work on the wreck site proceeded more quickly than first anticipated, it was decided to disassemble the rest of the port side structure and continue the excavation below this side of the hull. Associated with the excavation of the ship itself was the continuation of the survey of Red Bay harbour. Included here were the excavation of a further trench between the San Juan and the shore of Saddle Island, test excavation on the large vessel discovered last year, further towed searches over the harbour bottom, and the excavation of a smaller wooden vessel located near Penny Island.

THE PORT BOW AREA

The objectives of the port bow excavation were twofold: first to uncover the remainder of the cask deposit in this area; and secondly, to expose the rest of the articulated hull structure. The cask deposit was generally badly disturbed. Most of the casks were badly broken and incomplete making it difficult to determine individual cask assemblages. As well, timbers and timber fragments were found on top of and mixed in with casks. In most cases casks did not appear to be in their original locations. The disturbed condition of the cask deposit, it is assumed, resulted from the breaking away of the port bow section from the starboard side.

Two types of casks were recovered during excavation. The predominant type was the barrica which was the most common cask size found throughout the cask deposit on the rest of the ship. A few examples of a smaller capacity cask were also retrieved. What role this size played in the cargo lading system is imperfectly understood at this point.

Because of the disturbed nature of the cask deposit, the stowage pattern was difficult to discern. All that can be said at this time is that, of the cask assemblages uncovered, all appear to be from the ground tier or lowest layer of casks. It seems reasonable to assume that the lading pattern here would resemble the pattern found in the rest of the ship. According to this pattern casks were stowed horizontally in a fore-aft position in rows across the hull. At least three distinct layers of tiers of casks have been found, with each successive tier offset and between the casks below it, thus forming an interlocking network.

Below the casks a great deal of ballast stone was recovered. Far from being a simple bed upon which the casks were laid, the ballast formed an integral part of the cargo lading system. In this system the stones were formed into fore-aft rows between which the casks from the bottom layer rested. The rows of stone prevented the sideward rolling of the casks. Besides the rows of ballast, stones were also placed between the futtocks beyond the ceiling planking. The pattern of ballast utilization noted for the port bow area is identical to that found in the rest of the ship's cask deposit.

Once the overburden and cask deposit was removed, the port bow hull structure was revealed, (Figure 1). This consisted predominantly of futtocks and outside hull planking. The port bow was extant up to approximately the ends of the first futtocks. This was not as complete as the starboard and seems to be due to the more exposed nature of the port side. As mentioned above, the port bow has broken away from the starboard side of the ship. Further evidence of the stress placed on the port bow can be seen in the ceiling planking which had been mostly broken and dislodged.

At the forward edge of the port bow lay a hull section positioned transversely to the fore-aft line of the vessel (Figure 1). The section was composed of broken futtocks and outside hull planking. The plank ends were bevelled to fit into the stem rabbet leading to the conclusion that this was part of the upper port bow hull that separated from the rest of the intact hull and settled in this position.

Cask parts were the most abundant artifacts recovered from the port bow area. Other common artifacts included ceramic roofing tile fragments, rope fragments and pieces of leather. Unusual items consisted of pieces of cork, likely for the manufacture of cask bungs, and a cask peg with metal banding. Many other cask pegs have been found but this is the only example bound with metal. A unique find was a copper-alloy spigot key with the top part fashioned into a fleur-de-lys (Figure 2).

Faunal remains from the port bow excavation included a number of whale bones, cod fish bones and one unidentified bird bone.

STARBOARD UNDERHULL AREA

A major project of the 1984 field season was the continuation of the disassembly of the starboard side and excavation below the hull. Previously, the starboard side had been disassembled from the stem to the mid-ship area and excavation followed. In 1984 the rest of the forward starboard side was disassembled up to the keel, followed by underhull excavation. These underhull investigations have proved exceedingly rich in structural pieces and artifacts.

Immediately below the outer hull planking the excavators encountered a mass of structural timbers. These timbers included wales, skids or fenders, planking, deck beams, supports and a variety of unidentified pieces. It seems that most of these timbers were originally from the upper parts of the ship which, subsequent to the sinking, became detached from the vessel and were pinned beneath the starboard side when it collapsed outward.

A particularly important discovery consisted of a wale and associated timbers that appear to have formed the starboard fore channel assembly. The wale or channel was a curved plank 4.5 m long, 20 cm wide and 8 cm thick. This piece had three notches cut into the inner edge: one near either end and one 1.3 m from the forward end. In situ observations suggest that these notches fit over short vertical timbers that presumably were attached to the side of the ship. Horizontal wales passed through notches cut in the vertical pieces. Smaller triangular supports were attached to the outside face of the vertical timbers and fit underneath the channel.

Associated with the channel were three metal-banded heart blocks with accompanying concretions. The concretions contained remains of chain links that would have connected the heart blocks to the side of the ship. The metal-banded heart blocks would have been paired with rope bound heart blocks to maintain tension on the foremast shrouds. The use of pairs of blocks rather than deadeyes has already been described for the mainmast shrouds. In the case of the foremast it seems that only three such pairs of heart blocks supported the shrouds. Unfortunately, the upper rope-bound heart blocks were not recovered.

Other rigging elements retrieved from the starboard underhull area included two single-sheaved wooden blocks and a large toggle. Both of the single blocks were similar to other single-sheaved blocks found on the site. The toggle was unique because of its size. Much smaller toggles have been found during previous seasons but their size seems to suggest that they were for use on smaller vessels such as chalupas. The large toggle would be used with fairly substantial rigging which would have been found on the San Juan. Other pieces of recovered rigging included a number of pieces of thick cable-laid rope that passed under the bow of the vessel (Figure 3). These pieces originally may have been part of one long rope. Whether this might have been a mooring cable or part of the standing or running rigging is not known.

Besides the structural and rigging elements other artifacts were abundant from beneath the starboard hull. Common types included ceramic roofing tile fragments, cask parts, leather pieces and rope fragments. Numerous ceramic vessel sherds, mostly maiolica, were also recovered here. An interesting artifact was a bound fibre bundle, possibly a broom or brush. Another organic artifact, a woven mat, found underneath the lower stem piece might have been decorative or protective rope work for the rigging (Figure 4). As metal artifacts are rare from the site, the retrieval of a lead shot was an informative addition to the sparse ordnance data.

THE PORT UNDERHULL AREA

Because excavation proceeded more rapidly in the prime areas than expected it was resolved to disassemble the remaining port side structure and excavate below the hull (Figure 5). This decision was prompted by the rich finds below the starboard side. Equally productive results were gained here.

As beneath the starboard hull, a mass of structural timbers was encountered below the port hull. However, due to the more incomplete nature of the port side, fewer timbers were found here compared to the starboard side. The most common identifiable structural pieces included wales, planks and skids or fenders. Numerous unidentifiable parts were also present.

Found partially below the port side, and of significance, was what seems to be the port side fore channel. This piece, a curved wale, was 50 cm longer than the channel found on the starboard but had the same thickness and width. The port channel apparently possessed only two notches, one at either end, as opposed to three on the starboard channel. Although the suspected channel piece was found disassociated from its other component parts, discoveries of vertical supports, heart blocks, triangular supports and chain tend to support the identification of the piece as a channel.

Two metal-banded heart blocks were recovered from near the channel piece. Other rigging elements uncovered nearby included fragments of possible heart block chain in concretion, an osier ring and numerous rope fragments. Further aft, near the midship area, parts of the rigging were much more abundant. Here, twelve heart blocks, both with iron and rope stropping, were unearthed. The rope-bound hearts proved extremely informative as preserved with them were portions of the stroppings, shrouds and rat lines (Figure 6). These finds are providing the first information on shroud sizes, lashings and knots used.

Also recovered from the midship area were two double-sheaved long tackle blocks (Figure 7). One of these seemed to be intimately associated with the system of shrouds. Both blocks were similar in design and size to other long tackle blocks raised from the site.

As well as rigging elements and structural timbers, the port side underhull area produced numerous other artifacts. Similar to most areas of the site, roofing tile fragments, coopering debris and rope fragments were abundant. Less abundant but numerous, were leather fragments. Additionally, one complete leather shoe was recovered. Only a few ceramic vessel sherds were found. Individual artifacts included a long wooden tool handle, a small lead pellet and a wooden disk, possibly a gaming piece.

Besides artifacts, two other interesting features were encountered. One of these was a concentration of charcoal. Whether this deposit of burnt wood and ash resulted from some activity or event on board the vessel or was a feature that originated from the shore has yet to be determined. The other feature consisted of an association of fish bone with one of the smaller capacity casks. If the cask parts and fish bone were related this would present the first instance of the storing of foodstuffs in casks on the ship. Establishing this relationship is difficult due to the numerous other fish bones found beneath the hull.

Other faunal remains from beneath this side included the ever-present whale bones and whale bone fragments. Two other mammal bones were also recovered. These are as yet unidentified but were probably food-related.

THE PERIPHERAL AREA

Besides excavation on the intact hull structure, a substantial amount of work was carried out around the periphery of the wreck. The purpose of this work was essentially twofold: to uncover important architectural pieces that had become disarticulated from the intact structure; and to recover artifacts that have been dispersed through disintegration of the ship. The areas excavated included sections on either side of the port and starboard sides from the midship forward, plus a substantial portion forward of the bow structure. Some of these areas partially excavated during previous field seasons were completed this year.

Numerous structural pieces were excavated from the peripheral area. Many of these pieces consisted of broken hull planking and timbers, some of which remain unidentified. Other pieces, however, were identifiable and diagnostic. In this category were a wale and some deck beams, one with three mortices perhaps for stanchions. An important piece was the upper portion of the stem. Although badly abraded, identification could be made based on the curve and traces of the stem rabbet. An intriguing timber was a short curved piece with what appears to be a decorative point at the top of the curve. Presumably, this piece was meant to be seen but its exact position on the ship is not known.

Besides individual timbers, a fairly substantial section of articulated hull structure was uncovered off the port bow (Figure 1). Consisting of broken futtocks and outer hull planking, this section likely formed part of the upper port bow hull.

Rigging elements from the peripheral area were sparse. They included a heart block from the port side and a single sheaved block from the starboard side. The single-sheaved block was unusual in that it was larger than other similar blocks from this site and possessed a long portion of the rope stropping.

Other classes of artifacts proved to be more abundant. While roofing tile fragments, cask parts and rope fragments predominated, ceramic vessel fragments were also plentiful. Some of the latter, it is hoped, will produce complete or nearly complete vessels. Other artifacts included softwood billets, coal fragments and a number of unidentified wooden objects. From forward of the bow came a four-holed wooden button and a fragment of a grindstone, both of which may be intrusive. The grindstone fragment, though, bears a striking resemblance to similar fragments found in a Basque deposit on Saddle Island. Recovered from the starboard side were a section of basketry as well as another lead shot. The port side produced a large piece of thick leather that may be clothing-related.

Faunal remains proved prolific around the periphery of the wreck. Again, complete whale bones, whale bone fragments and cod fish bone were the most numerous. Two other faunal finds may provide significant information. One of these was a small mandible fragment that might be from a rat, and the other was a mammalian rib, possibly food-related.

An unexpected find off the port side was the remains of another small boat. This boat was badly smashed and incomplete. Recovered pieces included a badly broken two-piece scarfed keel, along with the stem piece and fragments of a similar piece, likely the sternpost. A number of floors,including a few Y-shaped floors, were also found. Planking consisted of the two complete garboards plus several other planks and plank fragments. Parts of the gunwale were also retrieved. A study of the lightly built construction of this boat along with a comparison with the structural features of the small boat found beneath the starboard side, strongly suggest that the port side boat was a chalupa as well. Chalupa were used by the Basque to chase and harpoon whales. This whaleboat interpretation is reinforced by the recovery of a short plank with a semi-circular notch. This may be a clumsy cleat - a short plank mounted in the front of a whaleboat that supported the harpooner's leg.

THE HARBOUR SURVEY

This field season saw the continuation of the survey of Red Bay harbour (Figure 8). The harbour survey seeks to locate other submerged traces of the Basque whaling enterprise. A substantial portion of the research time in 1984 was devoted to this aspect of the project.

This year, further excavation was conducted between the stem of the San Juan and the shore of Saddle Island. Excavation has been carried out here to recover material relating to on-shore or near-shore activity. Included here would be remains associated with butchering activity, wharf structures, foodways and habitation. As in the past, the most evident remains from this area continued to be whale bones. Among this mass of whale-bone, flipper elements - including two articulated flippers - and caudal elements predominate.

This tends to support the hypothesis that the tails and flippers of the whales were removed near the shore as an initial step in the flensing operation. Besides these bones, other whale elements included a nearly complete rostrum and a rare whale ear bone.

Other abundant faunal remains included cod fish bone. Uncommon finds were composed of bird bone elements and one polar bear skull. All of these faunal remains would seem to be food-related.

While faunal remains were prolific, artifacts were not lacking from the near-shore area. Common materials were roofing tile fragments, wood chips, billets, cooperage debris, rope and leather fragments. A complete leather shoe, two osier rings and a possible belaying pin or tool handle make up the most interesting of the complete artifacts. Possible construction material included a long billet with fastening holes that may have been part of a wharf.

Further harbour survey research consisted of towed underwater searches around the shore of the inner basin of the harbour. This survey produced virtually nothing relating to the sixteenth-century Basque occupation. An anchor, resting upright on an intact two-piece wooden stock, proved to be a notable discovery. Although only subjected to a cursory examination, it appears not to date to the Basque period.

Towards the end of the 1983 field season, divers discovered another large shipwreck, possibly dating to the sixteenth century (Figure 8). This year, a more intensive survey of the remains was planned. This survey would take the form of selective test excavations of the stern, bow and mast step/pump well areas in order to retrieve definitive artifacts and reveal comparative structural details.

Excavations in the stern have produced significant artifacts and structural information. Most prominent among the artifacts found was likely the astrolabe, an early navigational instrument (Figure 9). Although fragmented, enough of the copper alloy pieces were recovered to reconstruct a good portion of the instrument. Recovered were most of the body, the suspension ring at the top, and a small point that may be off the alidade. No date or degree markings were visible on the astrolabe at the time of recovery. Other artifacts from the stern included a number of small calibre cannonballs, lead shot, rope fragments and a great many ceramic vessel sherds. The ceramic pieces are very similar to these from the San Juan site.

Structurally, the stern of this vessel is almost identical to that on the suspected San Juan site. Both have the L-shaped stern piece which is scarfed to the stern post and the keel. These two scarph joints are reinforced by an overlapping stern knee that lodges inside the keel and sternpost. The arrangement of the Y-shaped floors and first futtocks is also similar to that found on the San Juan. In the midship area, brief excavations exposed the main mast step along with the pump well features. The mast step was of similar construction and size to the one on the San Juan, but the pump well, on the other hand, had structural details that were dissimilar. Here, the well was more sturdily constructed having thicker planking and heavier corner posts. Also, unlike the San Juan, this ship possessed two sumps (one on either side of the keelson) rather than one. The two sumps were neatly made as opposed to the rudely cut one on the San Juan. A portion of the stem was excavated and briefly examined indicating a similar construction to the San Juan.

The short survey of this new wreck has revealed a large ship of a similar size to the San Juan. The structural details and recovered artifacts seem to point to a sixteenth-century date. From the excavations and surface examinations of other areas of the site no remains of a cargo of whale oil casks were evident. There were some indications that this ship may have been at least partially burnt.

This year, while an area of Red Bay harbour was being surveyed prior to the installation of a sewer outfall, the remains of a third large vessel were encountered (Figure 8). As only a cursory examination of this new wreck was carried out, little information is available. It appears to be approximately the same size as the other two large vessels. The ceramics that were seen were similar to those on the other two vessels, arguing for a sixteenth-century date. Structurally, only the main mast step was studied carefully. This was similar in size and construction to the other two. It is hoped that a more intensive reconnaissance can be conducted on this wreck to help clarify the structural, artifactual and historical issues raised by this vessel.

Work continued this year on the small vessel found near Penny Island

(Figure 8). This vessel has provisionally been identified as a pinaza, a small two-masted Basque sailing vessel used in the whale industry. Discovered originally in 1980, it was more thoroughly investigated in 1983, and then totally excavated and disassembled during this field season.

When first investigated the wreck site appeared confusing until it was noticed that the vessel was upside-down. Excavation revealed a vessel approximately 10.5 m long with a beam of around 2 m. The recovery of both the stem and stern posts indicate a double-ended boat. Steering was likely accomplished with a steering oar as no rudder or rudder attachments were found. This boat was not as finely built as the whale-boat, or chalupa, and was of a heavier construction. In some cases examples of crude construction were evident. For example, the gunwales were simply made by splitting a small-diameter tree in half, stripping off the branches and nailing it in place. It may have been similar to the chalupa in one respect. Some evidence exists to indicate that this vessel was carvel-built in the lower portion and clinker-built for the upper part. A fore mast step was recovered at the bow along with a cross-beam for the main mast, indicating propulsion by sail, although there were some indications along the gunwales that oars were used as well. The overall appearance of the wreck suggests a utilitarian vessel of some sort. The recovered timbers will be studied more completely.

STRUCTURAL RECORDING AND MODELLING PROGRAM

A major aspect of the project at Red Bay has been the raising to the surface of the structural elements of the suspected San Juan, amd the subsequent recording of the individual parts. Following the raising, significant pieces were carefully drawn at a 1:10 scale. The purpose of this recording procedure was twofold: first, to produce a permanent and accurate record of all important structural pieces; and second, to provide the raw data for a scale model of the ship. The modelling program was instituted as it was not planned to either raise the ship as a whole or reassemble the individual pieces.

In actuality there will be two models. One of these will be a 1:25 scale as-found site model. This will show a few excavated trenches with the in situ timbers, timbers found on the sea-bed surface and the sea-bottom topography. The other model, and probably the more important of the two, is a 1:10 scale reconstruction of the ship. A total reconstruction will not be attempted. Rather, enough will be done including most of the starboard side and stern, the lines of the vessel, to illustrate important structural details, and to see how significant asssemblages of pieces fit together (e.g. the transom) (Figure 10). The modelling program will principally be a learning process for the archaeologists on sixteenth-century Spanish naval architecture, and an instructional device for associated researchers and seasonal diving staff.

Substantial progress has been made on the ship model, under construction intermittently for two years. The stem, keel and sternpost have all been assembled. In addition, the transom assembly has been produced and mounted. The overall length of the reconstructed vessel is now reasonably well defined. Some of the framing has been also completed. This includes the Y-shaped floors at the bow and stern as well as some of the other floors, along with some of the first and second futtocks. With these in place the lines of the hull are starting to become apparent.

Major contributions to the model this field season came from the recovery of the master frame and the keel. The master frame, consisting of a floor timber and a complete set of futtocks attached to either face, was normally the first frame erected near the center of a ship. The other frames were set up going forward or aft from the master frame. The master frame generally defines the widest part of the ship.

Another significant piece recorded this year was the keel. The keel was a massive piece of beech 14.3 m long, 58 cm wide and 45 cm deep (Figure 11). More remarkable than its size, however, was its shape. At the middle the keel was roughly T-shaped in cross-section. The projections were shaped more and more upwards towards the bow and stern so that the keel was U-shaped at either end. The ends appear to have been manufactured much in the way a dug-out canoe might have been made. In effect the projections formed the garboard strakes on either side of the keel.

FUTURE WORK

As this field season was the last one involving major excavation at Red Bay, future plans will be mainly directed towards the close-down of the site. The major task here will be the permanent reburial of all of the excavated timbers. Intertwined with this will be the completion of the drafting of the ship's significant timbers. Also planned is some further survey work on the other two large shipwrecks. Underway now is a dendrochronological study attempting to date timbers from the large ships as well as from the smaller boats.

The finalization of field work will lead into the next stage of the research process - the synthesis of the collected data. Included here will be detailed artifact analyses, artifact distribution studies, stratigraphy studies and the analysis of the ship's architecture. The completion of this phase of the project should provide a sound knowledge of sixteenth-century Basque whaling technology, naval architecture, and daily life in a Labrador whaling station.

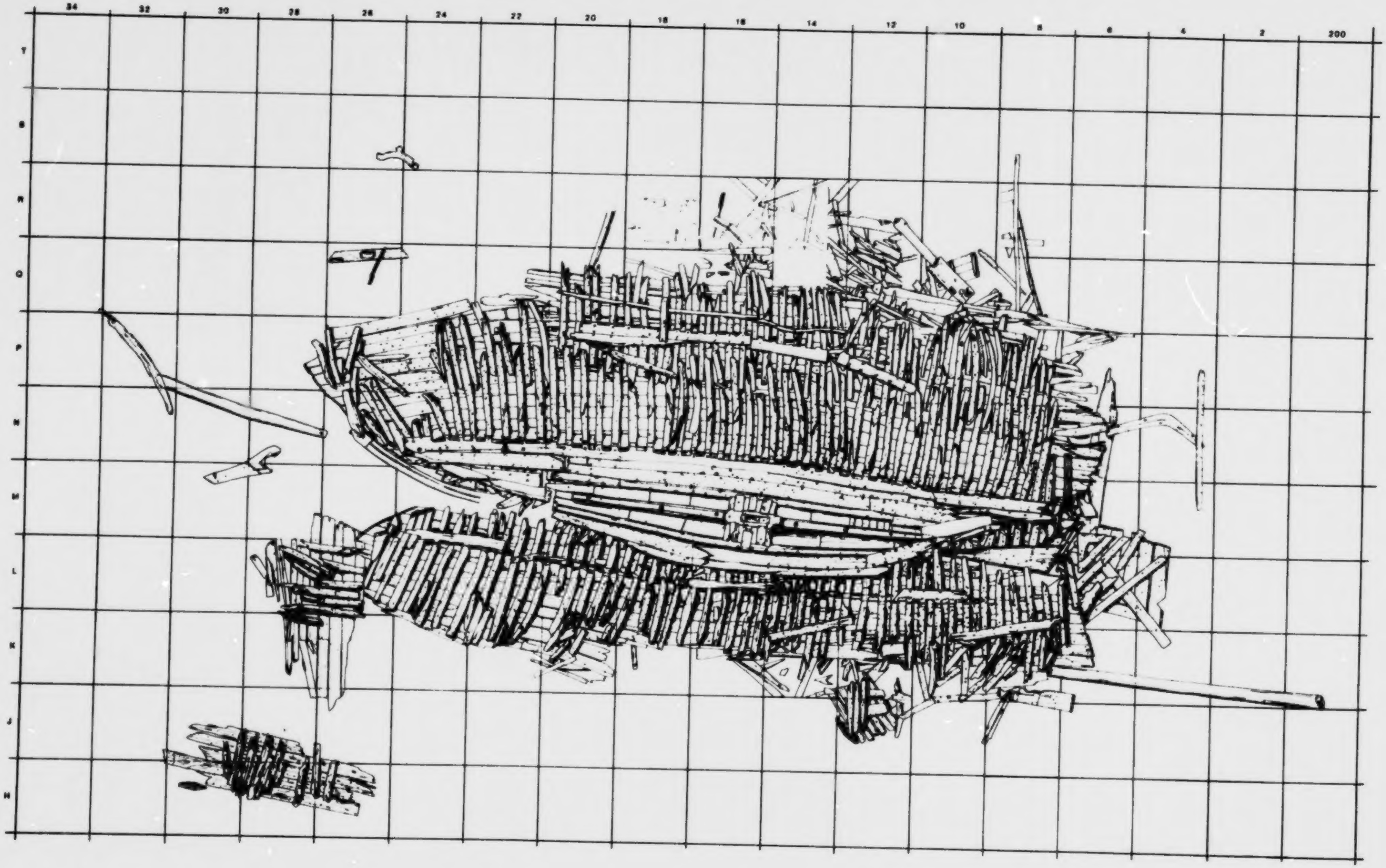

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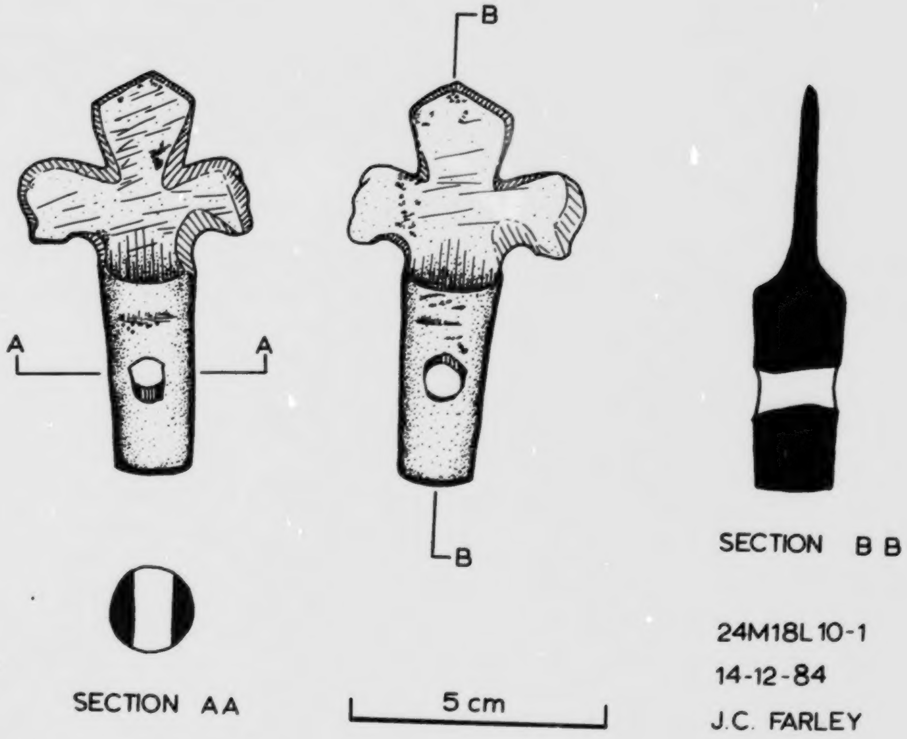
Figure 1

Complete structural plan of the sixteenth-century Basque galleon. (Drawn by: J. Farley).

Figure 2

Copper-alloy spigot key. (Drawn by: J. Farley).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J.C. FARLEY

FIGURE 3

Large diameter rope and a single-sheaved block found beneath the bow of the ship. (Photo by: D. Page).

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Figure 4

Woven rope mat. (Drawn by: C. Piper).

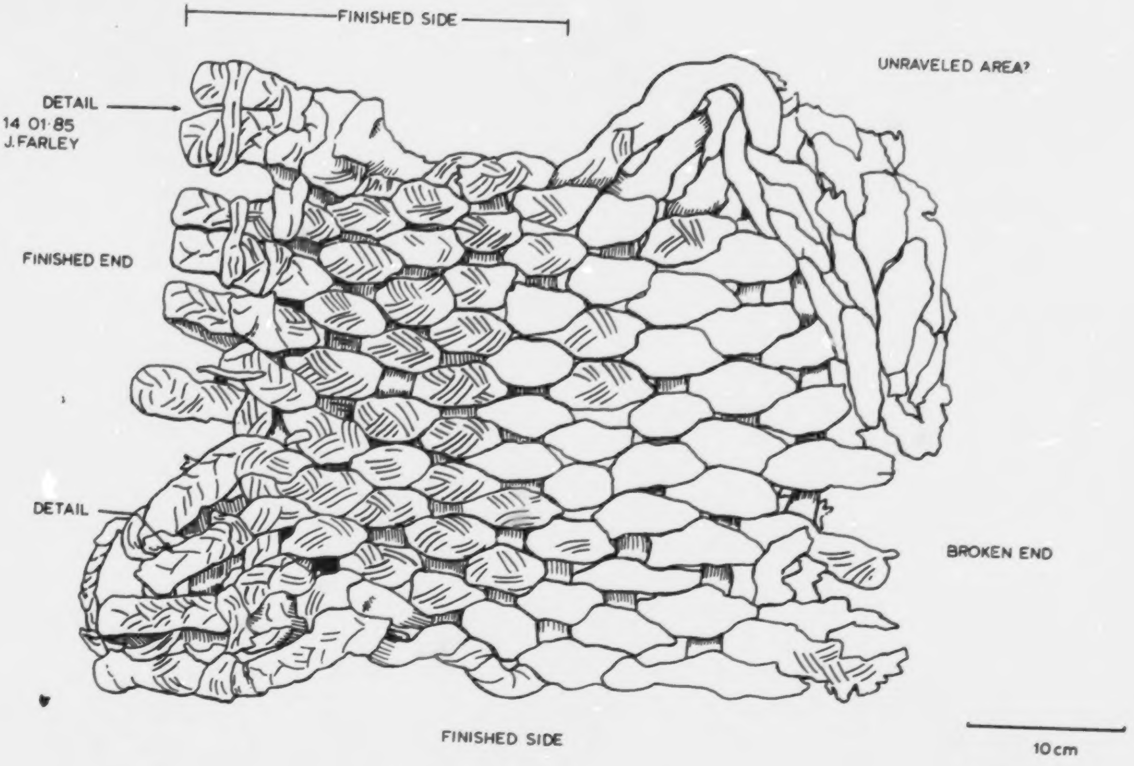
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Figure 5

Excavator disassembling a floor timber from the hull. (Photo by: D. Page).

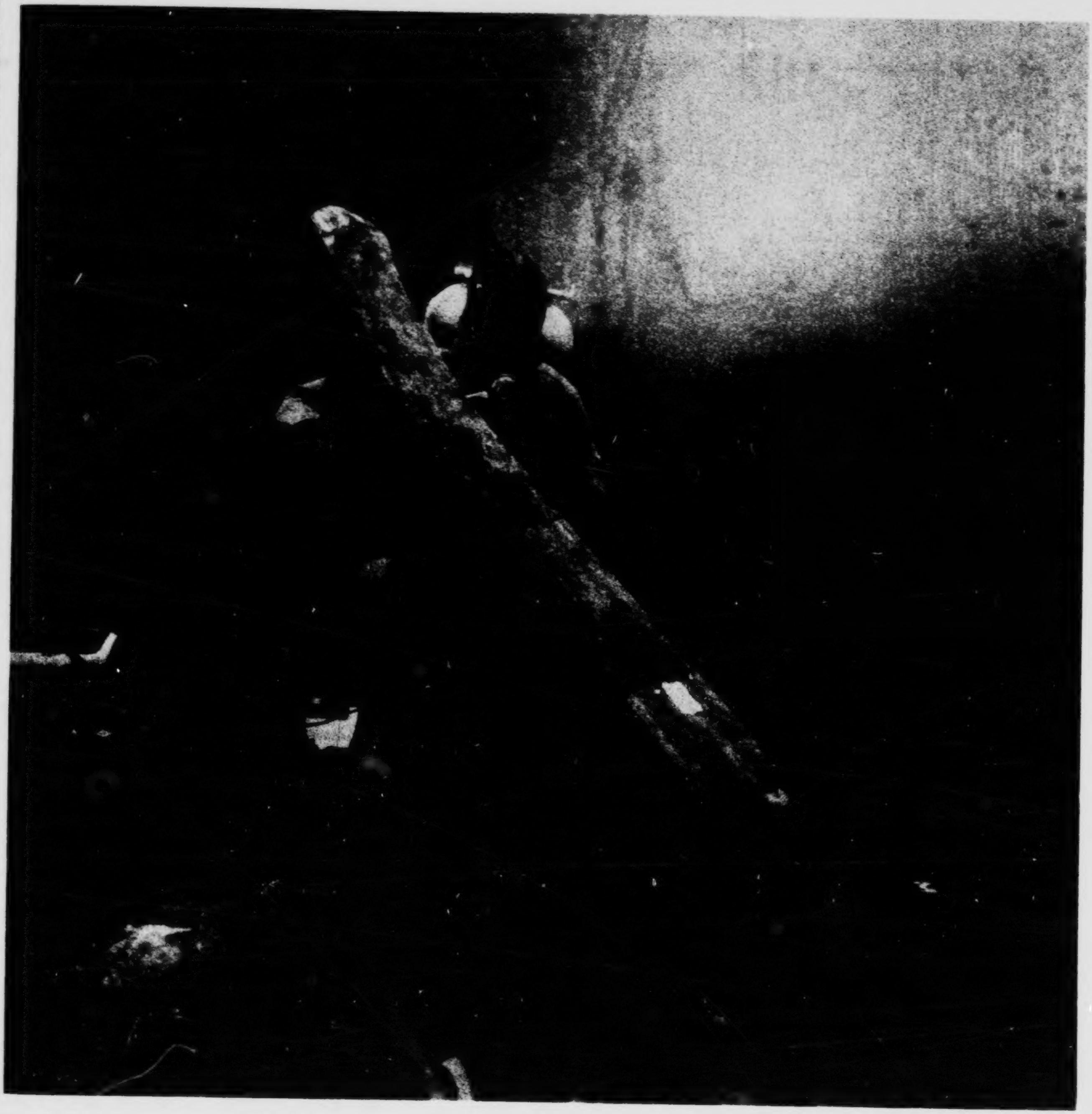

Figure 6

Heart block with an attached portion of the rope shroud. (Drawn by: C. Piper)

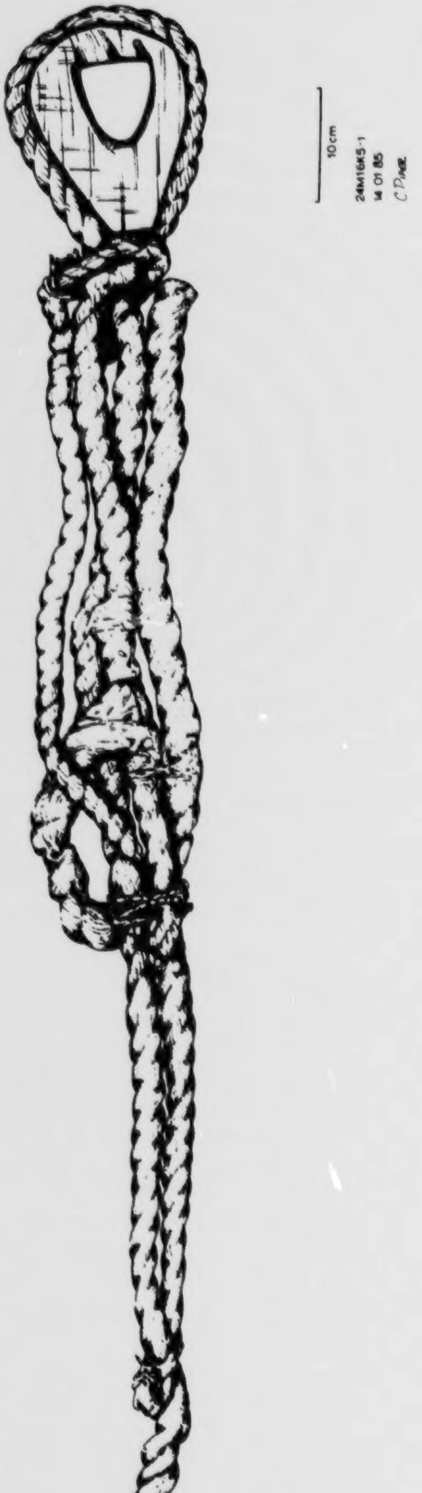
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Figure 7

Double-sheaved long tackle block. (Drawn by: J. Farley).

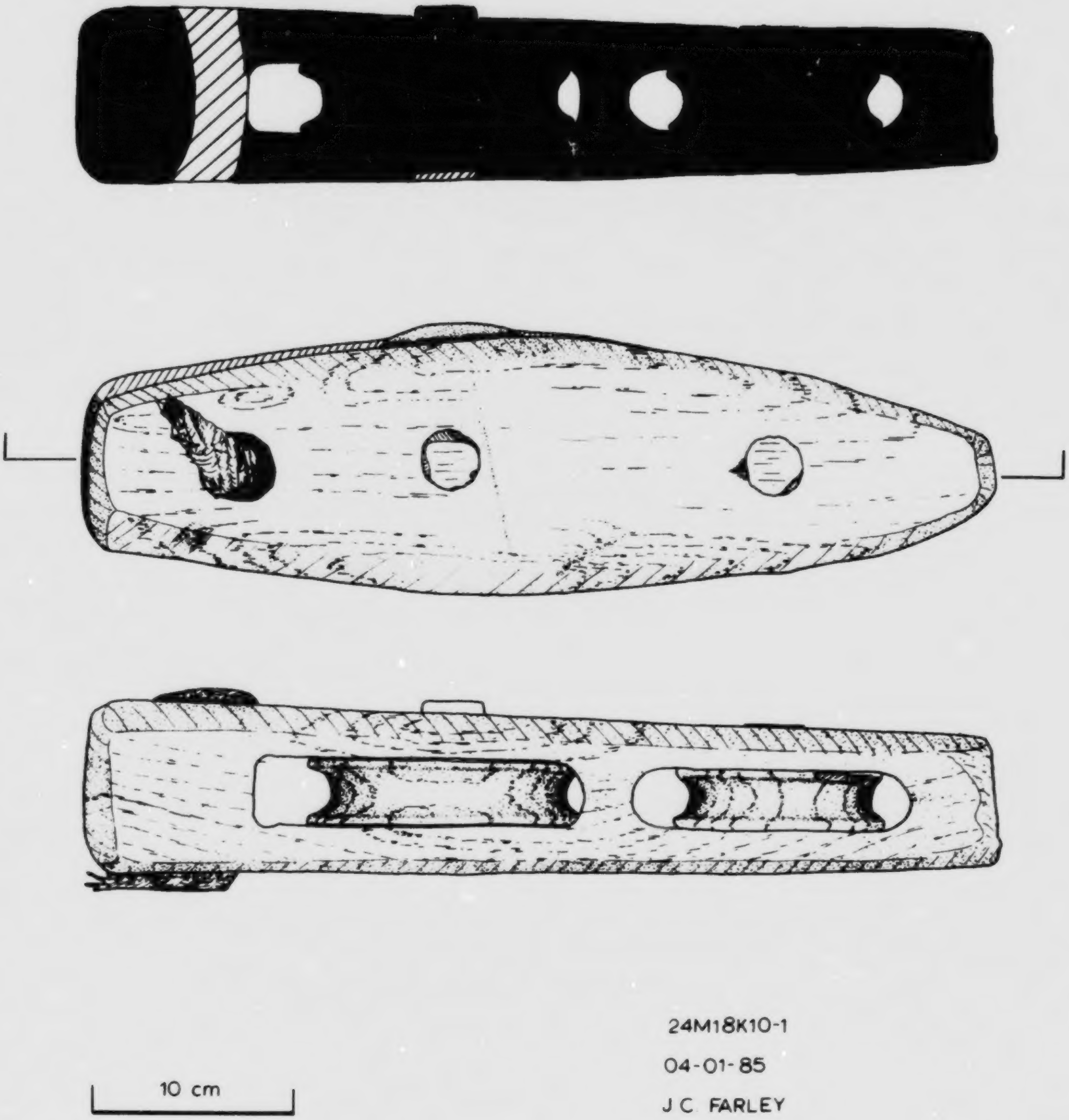

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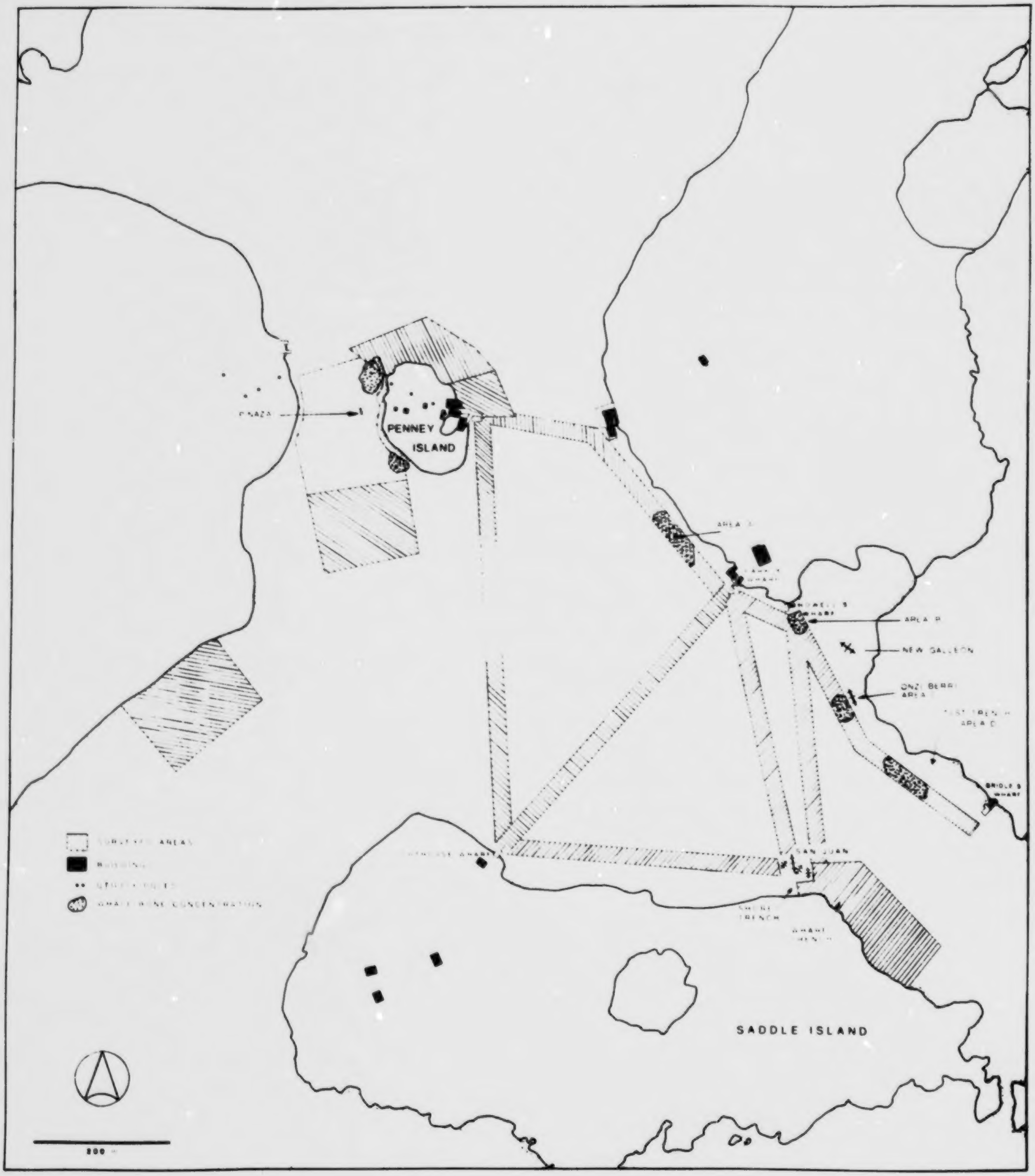
Figure 8

Plan of Red Bay showing areas surveyed and the locations of major underwater features. (Drawn by: C. Piper).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SHORE TRENCH
WHARF TRENCH
SADDLE ISLAND
SURVEYED AREAS
BUILDINGS
WHALE BONE CONCENTRATION
200 m

Figure 9

Drawing of the astrolabe. (Drawn by: C. Piper).

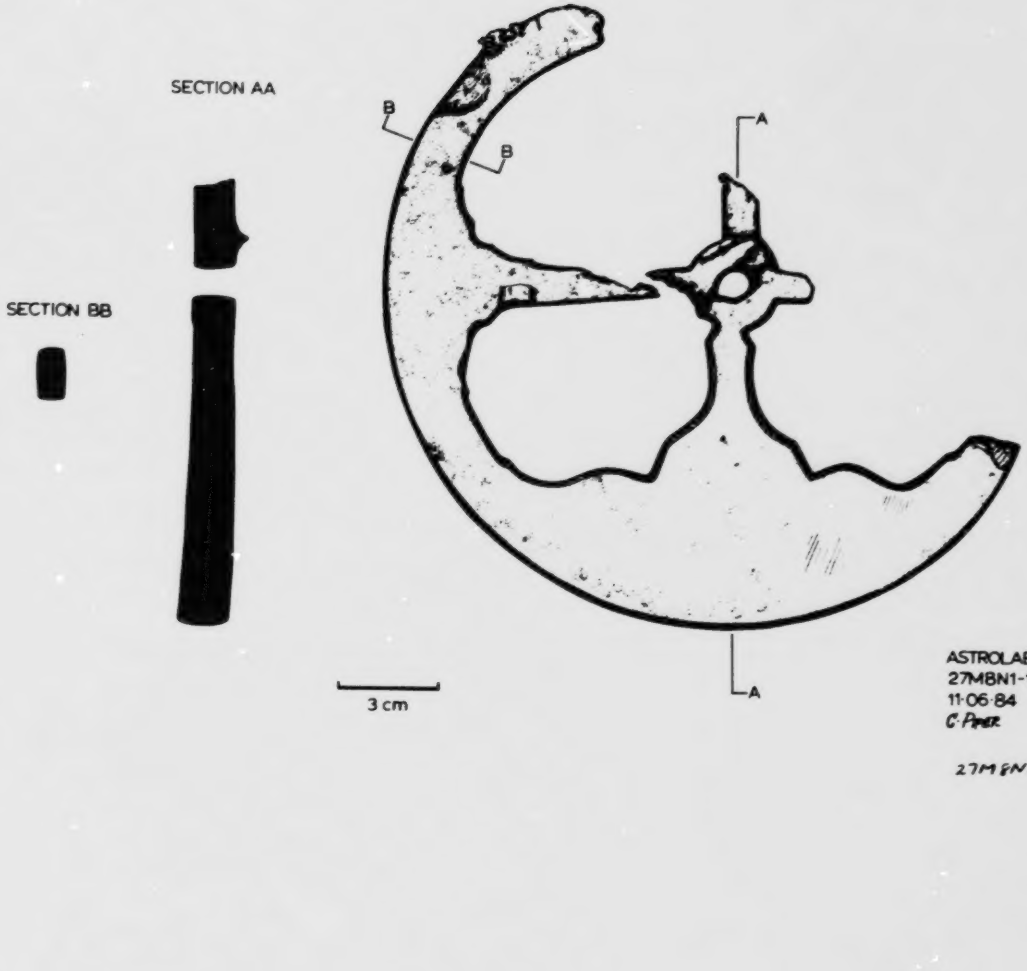
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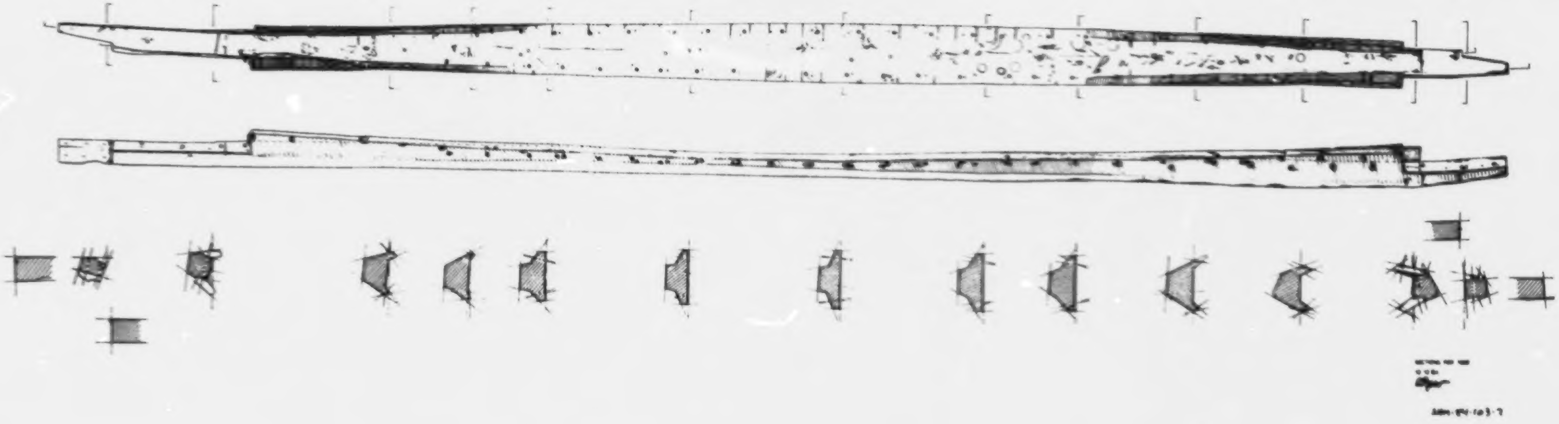
Figure 10

Modelled reconstruction of the stern and transom. (Photo by: D. Page).

Figure 11

Drawing of the keel. (Drawing by: C. Piper).



1984 EXCAVATIONS AT RED BAY, LABRADOR

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Memorial University of Newfoundland

Although excavations at the 16th century Basque whaling stations at Red Bay, southern Labrador did not benefit from the unusually fine summer experienced by the remainder of the province during July and August the results of the excavations were of such a nature as to make the endless reports of sunshine and record high temperatures from such places as St. John's and Hopedale less noisome than they otherwise might have been. I should like to thank the field crew and laboratory crews who laboured under often trying circumstances, including an outbreak of particularly virulent "stomach flu" on July 19th (since known as "Brown Thursday"), for their unflagging good humour and attention to the task at hand throughout the summer. Thanks are also due the Historic Resources Division, Department of Culture, Recreation and Youth and the Department of Regional and Economic Expansion who combined to provide finances for the 1984 season. Finally, the Canadian Conservation Institute, National Museums of Canada, once again provided personnel and equipment to assist in the removal from the field and treatment of the many friable objects recovered during the season as well as continuing conservation services throughout the winter months.

Work during the past summer was concentrated in three areas on Saddle Island, where most previous excavations have taken place and where the majority of undisturbed 16th century deposits are found, and on neighbouring Twin Island where an innovative technique for excavating small ponds which served as receptacles for refuse proved its worth and rewarded us with a number of organic and other artifacts which will be described further below.

Saddle Island

The three main areas to receive attention on Saddle Island included the cemetery (Area L) which was discovered in 1982, a large shore station (Area C) partially excavated between 1978 and 1982, and a second shore station (Area J) on which work was interrupted in 1982 because of the accidental discovery of the nearby cemetery. The results of excavations at each of these areas are summarized briefly below.

Area L

Under the supervision of Brenda Kennedy, University of Calgary, work on the 16th century whalers' cemetery continued despite the often inclement weather which plagued excavations at this area more than any of the others. More than 25 additional burials were excavated which increased the burial count to 46 and the number of individuals to at least 123. These burials changed the picture somewhat from that reported for 1983 (c.f. Tuck 1984 for a summary of the 1983 excavations). The number of single interments discovered during 1984 was far greater than that revealed by the previous season's excavations and makes the number of single and multiple burials approximately equal. Several of these burials were marked by three or four boulders placed atop the grave, a pattern not previously observed. Also the pattern of strict adherence to the compass, with the heads of skeletons to the west, was broken in a number of cases during the burials of the individuals discovered during 1984. This sometimes resulted from natural obstacles to grave digging, such as bedrock outcrops, but in several instances there was no apparent natural reason for burials with heads orientated 180 degrees from the normal pattern. The cemetery also produced the first archaeological evidence of the presence of individuals other than adults at Red Bay during the 16th century. Two individuals of very short stature were exposed, one of which retained a second molar showing far less wear than the other teeth, suggesting an age at death in the early teens.

In contrast to the 1983 season, most of the skeletons recovered during 1984 were in an extremely poor state of preservation, hence it was decided not to attempt to remove them from the ground but make such observations as possible and re-cover the skeletons with clean sifted sand and shell. In part the poor preservation resulted from wet conditions, but more importantly from a lack of shell in the soil. The former, however, was not entirely without benefit for while it resulted in poor bone preservation, in at least one instance it resulted in good preservation of textile which accompanied a single burial, in this case a pair of pantaloons and an upper garment which upon cleaning at the Canadian Conservation Institute now appears to be a shirt; sleeves meeting near the waist, where the hands of most skeletons were crossed, are now visible. Both garments were removed en bloc using a technique of reinforcing the material with adhesive-soaked gauze, developed at Red Bay by Judith Logan, conservator with the Canadian Conservation Institute; both garments are now undergoing treatment at the C.C.I. Testing on the last day of excavation revealed several other graves, somewhat deeper and wetter than the burial with the textiles, and having even better organic preservation. It is hoped that excavations in 1985 will reveal more evidence of dress during the 16th century whaling episode at Red Bay.

Area J

During the early part of the 1982 season sods were removed from what appeared to be a small tryworks located on a rock outcrop near the shore of Saddle Island about 100 m south of a larger tryworks (Area G) which had been excavated earlier in the summer. Work there was interrupted by the discovery of a nearby cemetery and was not resumed until 1984. As excavation proceeded this summer past it became obvious that the feature originally thought to be a single tryworks was somewhat more complex than we had expected. While the major mound of rubble resolved itself into a very well-preserved "oven" consisting of three firepits (see Figure 1), each somewhat smaller than those investigated in previous years, other smaller deposits proved to be earlier tryworks which had been partly dismantled during the course of construction of the more recent example. While we suspected, from the shattered condition of the rocks comprising the previously excavated tryworks, that these features must have required constant maintenance, the tryworks at Area J provided the first evidence of total rebuilding, perhaps on more than one occasion. The remains of a low wall were revealed a few meters behind the most recent tryworks and five firepits could be traced either by the remaining rocks which formed them or by the absence of oil which had not stained the bedrock in places where the walls had once stood and thereby provided a negative image of the former construction. Additional stains and scattered rocks suggest that a third, still older tryworks may also have once stood there.

Still another tryworks was excavated at Area J, this one consisting of only a single firepit backed up against a near vertical bedrock outcrop which formed a portion of the walls of the structure. Only a few very small fragments of roofing tile were found associated with this structure; it clearly did not have a tile roof. In fact a large mass of cloth found on the floor of the firepit may indicate that it was roofed with cloth, a fact also mentioned occasionally in documentary sources which forbid the use of sails as roofing material. A preliminary identification suggests that the fibres are wool, which seems to rule out the possibility that it is a fragment of a sail, since Michael Barkham, in his study of 16th century Basque shipbuilding (Barkham 1981), does not mention the use of wool for sails. Whether it will prove to be a garment, and give us another look at costume of the 16th century, however, awaits completion of the conservation procedures.

As excavation proceeded to the areas immediately surrounding the tryworks a large roof fall was exposed. It consisted of poles between about 10 and 20 cm in diameter and up to three meters long which had been laid parallel to one another with their edges touching. This was then covered with a layer of sods, perhaps cut with an iron mattock which was found nearby. The sods were then covered with strips of baleen held down with rocks. Since no nails were used in this construction the roof must have been flat or of shallow pitch; scattered other preserved timbers may have been support posts, but were not preserved in sufficient numbers to allow any further reconstruction. Nor are we able to suggest with any certainty what sorts of activities went on within this structure. No tools were recovered; a few bits of coarse earthenware, fragments of glass, scattered barrel parts, a cane basket or mat, walnut and almond shells, and an olive pit suggests domestic, rather than "industrial" use. The best guess might be that the structure sheltered the workers responsible for the rendering at the nearby tryworks, or perhaps served as a temporary shelter for men engaged in its construction. Further work planned for 1985 in other nearby water saturated areas may reveal additional details of construction or function.

Finally a Thule or Labrador Inuit steatite bowl fragment (see Figure 2) was found within the sod comprising the roof suggesting it was incorporated into the roof at the time of construction; it can be inferred, therefore, that there was a native occupation of the area prior to the construction of at least this building. More will be said of the native presence at Red Bay below.

Area C

This was one of the first areas tested in 1977 and subsequently the scene of major excavations during the 1978 - 1981 seasons. A large tryworks, probably containing at least five firepits and with portions of a wood platform from which the cauldrons were tended was exposed as a result of these excavations (see Tuck and Grenier 1981). Work was resumed in 1984 with the intention of excavating completely one shore station in an attempt to determine what other structures or activity areas might have existed there.

The area is bounded on two sides by steep rock faces upon which habitation would have been impossible; on the third side is a cooperage (Area E) previously excavated, and the remaining side faces Red Bay Harbour. About three-quarters of this area has been investigated. Evidence of two additional structures was found during 1984 and one of these was completely exposed. Located in a v-shaped terrace a few metres above and to the southwest of the tryworks, this structure apparently took advantage of the steep bedrock walls to support a roof framed with poles, some of which were preserved, and covered with tile. The preservation of the roof supports resulted from waterlogged conditions which must also have existed at the time the structure was in use for a drain floored with pairs of barrel staves laid end to end and covered by smaller cut staves or boards laid edge to edge was a central feature of the structure. Resting on the upper layer of wood was found the rim sherd of a collared ceramic vessel of native manufacture which will be described more fully below.

Once again there is little direct evidence to suggest the function of this structure; some circumstantial evidence, however, provides at least a few hints. Previous work has suggested that only structures somehow related directly to the whaling operation (e.g. tryworks and cooperages) were roofed with tiles. It seems likely, therefore, that the structure revealed at Area C was an "official" building, in contrast to the less elaborate dwellings and other structures discovered elsewhere on Saddle Island and Twin Island. Its location, near a tryworks and elevated slightly above it, accords well with the location of at least two cooperages. However, except for a a number of barrel parts, which are unfortunately ubiquitous wherever conditions for preservation are favourable, no evidence of coopering was found; if the place was occupied by coopers they were remarkably careful with the tools of their trade. One large object, about two-thirds of a grindstone about 110 cm in diameter, suggests an area where artisans of some type worked. Although sharpening of harpoons, lances, flensing knives, and other whaling implements was undoubtedly important it seems unlikely that a building of this size would have been constructed solely to house a grinder. Despite the absence of direct evidence, therefore, the interpretation of this structure as a cooperage with equipment and space for other artisans seems most reasonable at this point. Finally, it is possible that it was used for only a few seasons (its perpetually wet floor would certainly have been a nuisance) thereby accounting for the lack of coopers' tools. After this unsuccessful attempt to establish a cooperage the work may have been carried on to the northwest of the tryworks at Area E where there was both ample room for several cooperages and an amount of refuse to suggest that they once existed there.

The second newly-discovered structure at Area C was revealed only a few days prior to the close of excavations. Thus far, it consists only of a few large strips of baleen, perhaps part of a roof or wall similar to the collapsed roof from Area J. Hopefully, 1985 excavations will reveal more of this structure.

Twin Island

Excavations begun by Ralph Pastore and Reginald Auger (1984) on Twin Island, a few hundred meters south of Saddle Island and apparently known to the Basques as "Isle of Flowers", were continued during the 1984 season. Instead of concentrating on the several small structures, some of which date from the Basque period, our excavations centered on the removal of material from a small pond adjacent to one of the structures. The water level in the pond was lowered to within a few centimeters of the surface of the silt which had produced a few artifacts of Basque origin in 1983. The suspended upper few centimeters of silt were then removed using a system of siphons and the water level maintained by pumping clear water into the pond. Unfortunately the only available water was sea water at temperatures usually very close to 0^0 C. The outflow at the exhaust of the main siphon hose was screened through one-quarter inch mesh. Working from movable platforms the crew was able to remove successive layers of silt and expose artifacts in place which were then mapped at a scale of 1:10 using a tape positioned on the permanent map to give both distance and direction after the fashion of what might be called a "mechanical alidade". Depth below datum were recorded using a string, line level, and three meter tape. In all, the system worked remarkably well; the difficulties of working for eight hours in near-freezing water were offset by the unusual material recovered from the pond.

Preservation was for the most part excellent, owing to the apparently oxygen free environment of the silt. Lead was recovered uncorroded and four hundred year old wood remained as fresh and light coloured as the day it was thrown into the pond. Artifacts recovered from this matrix include objects of wood, bone, leather, iron, lead, and glass in addition to occasional ceramic roofing tile fragments but, strangely, no ceramic vessels which comprise the majority of assemblages from most areas on Saddle Island.

The most obvious wooden artifacts were numerous poles of local softwoods up to about 15-20 cm in diameter and ranging to three meters in length. All had been cut with iron axes and many show no further modification except that the branches have been removed. Some had apparently been barked, for the small branches are cut flush with the trunk; others were not since the branches protruded a few centimeters from the trunk. Some were cut on both ends and occasional specimens appear to have been thinned near the centre resulting in a "waisted" appearance. It seems certain that these are the remains of some sort of temporary structure which once stood near the edge of Twin Island pond but no clues to the types of construction, save for the absence of nails or nails holes, suggest what it might have looked like or, for that matter, who built and occupied it.

Other objects include a number of long pointed spits or skewers (Figure 3) made from barrel hoops, staves, and small boat planks which, judging from the burning at the points and near where they expand to form a "handle", were used to roast meat over an open fire. Several appear to have burned completely through at about the point where the meat must have been skewered, suggesting that they were propped up extending over the fire and at least occasionally left unattended while the meat cooked. The recovered food bone, presently undergoing analysis at the Zooarchaeological Indentification Centre, Museum of Natural Sciences, seems to include primarily bird species, with a few mammals among which seal and walrus are recognizable, and a surprising near-absence of fish bone. I suspect that chunks of whale meat might also have been roasted using these implements but, for obvious reasons, such species are unlikely to be represented by refuse bone. Whale bone was common in the deposit, however. Both ribs and veretebrae were recovered and it is clear that they were carried to Twin Island for use as fuel. Many of the vertebrae have the processes removed by chopping, the bodies show use as chopping blocks and were often intentionally split, and thousands of fragments of burnt whale bone were recovered from the lower levels of the deposit where they had settled owing to their density. While still infused with fat and oil they doubtless burned with a hot, if somewhat aromatic, flame. Other pieces of oak and beech, some clearly salvaged from a sizeable vessel (see Figure 4), or from broken or discarded tools or barrels also apparently were brought to Twin Island for use as fuel or raw materials for the manufacture of other implements.

Imported woods were used to fashion a variety of objects in addition to the roasting spits. These include: a pine (sp.?) "paddle" resembling a thick ping-pong paddle; another unusual paddle-like object which defies interpretation; a biconical bead made from palm wood; a beechwood bowl; what appears to be a turned candle holder; an unusual handle, possibly of African mahogany, which may derive from some sort of weapon; beechwood wedges; and a number of other objects.

Local materials were also fashioned into a variety of implements including, among others, a hone made from leather stretched over a block of whale bone and the unique carved object shown on Figure 5. Once shaped into a rough peg-like form one side was carefully smoothed and a series of symbols carved upon it. While the identification cannot be certain it appears to be a tally stick, for two of the carvings resemble ownership marks of a style well known from both Red Bay and the Basque country; the carved grid in which each of the boxes has been cut through may be the tally itself. Similar objects were in use in Spain into the 19th century; each participant in a series of transactions kept one of a pair of identical sticks and notches were cut in each as transactions were carried out, thereby providing an unalterable record of account (Arrinda 1978:187).

Non-organic material includes several nails and nail fragments, a fragment of a large iron dowel or bolt with the head flattened from two opposite sides, lead shot of various sizes, and the sherds of a large one-piece tumbler with a footring similar to that commonly found on stemmed wine glasses shown on Figure 6.

In addition to this material, which appears to have originated in the Old World or to have been modified by 16th century European whalers, there is another group of specimens which provides a new dimension to our investigations. It includes a ground slate end blade fragment, a chert (?) drill bit, seal vertebrae strung on ribs (see Figure 2), a carved wood ball and a wooden spiral, perhaps a wound plug. With a soapstone pendant found in 1983 this material provides undeniable proof of Inuit presence on Twin Island. It is possible also that some of those objects attributed to the Basque, such as the roasting spits, could have been fashioned by Inuit; in fact, it is conceivable that the entire Twin Island assemblage, despite the European origin of many of the objects and most of the raw materials, could have been deposited by Inuit rather than Europeans.

The site is clearly a "contact" site since both European and native material are represented in a context which suggests that they were deposited within a short time of one another. The problem lies in attempting to determine exactly which group deposited which artifacts. Hopefully the analysis of the well preserved collection of faunal remains, now being processed by Dr. Stephen Cumbaa at the Zooarchaeological Identification Centre, National Museum of Natural Sciences, will yield some information on seasonality or butchering practices which may help to solve this puzzle. At present, the evidence indicates clearly that Inuit were present on the Strait of Belle Isle late in the 16th or early in the following century. Although it seems likely that these people were attracted by the presence of Europeans it remains to be determined whether any face to face contacts ever took place and, if so, what form they might have taken.

As mentioned briefly above, evidence of the presence of another group of native people was recovered from a structure overlooking the tryworks at Area C. It is in the form of a single potsherd found above a wood drain and below the roof fall of this structure, hence must have been deposited some time before the structure collapsed. The sherd, as shown on Figure 7, is of a high-collared castellated vessel with short oblique impressions on the interior lip, an incised decoration on the exterior collar, pinched collar base, and annular impressions below the castlellation. Except for the fabric, which is softer and appears to be somewhat less well-fired than is usually the case, this sherd bears all of the attributes considered typical of late prehistoric Iroquoian ceramics. Whether this might have been dropped by a descendant of one of the supposed Iroquoians whom Cartier met in the Strait of Belle Isle in 1534 or an Algonkian speaker who once had a good look at some Iroquoian pottery remains even less clear than the questions regarding Inuit contacts.

Excavations planned for the coming summer will address many of the questions posed by the 1984 excavations, particularly that concerning Basque/native contacts. A second pond, this one on Saddle Island, will be excavated using a modification of the system employed on Twin Island. It is known that this pond also contains native material. A kayak paddle fragment, possible drum frame or circular wooden box, and a number of seal bones were recovered during preliminary testing. Hopefully this pond and the surrounding area will provide more information regarding the timing and nature of these early Inuit contacts with Europeans.

REFERENCES CITED

Arrinda, Donato

1978 "Comercio y Economia". In Euskaldunak, edited by D. Jose Miguel de Barandiaran. San Sebastian.

Barkham, Michael

1981 Report on 16th Century Basque Shipbuilding c. 1550 to c. 1600. Parks Canada Manuscript Report Number 422. Ottawa.

Pastore, Ralph T. and Reginald Auger

1984 "Archaeological Investigations at Red Bay and Black Bay, Labrador". In Archaeology in Newfoundland and Labrador 1983, ed. by J. Sproull Thomson and C. Thomson, Annual Report 4: pp. 55-69. Historic Resources Division, Department of Culture, Recreation and Youth, St. John's.

Tuck, James A.

1984 "1983 Excavations at Red Bay, Labrador". In Archaeology in Newfoundland and Labrador 1983 ed. by J. Sproull Thomson and C. Thomson, Annual Report 4: pp. 70-81. Historic Resources Division, Department of Culture, Recreation and Youth, St. John's.

Tuck, James A. and Robert Grenier

1981 "A 16th Century Basque Whaling Station in Labrador". Scientific American, 145 (5): 180-190. New York.

Figure 1

Tryworks at Area J, Saddle Island. The most recent construction, which supported three copper cauldrons is in the foreground. Remains of at least one older tryworks can be seen just behind the back wall of this example. The inside dimension of the fireboxes is approximately 1.2 m.

Figure 2

Inuit material from Saddle Island and Twin Island. At the upper left are a soapstone pendant, chert drill bit, and slate end blade from Twin Island-3. The soapstone bowl fragment at the lower left was incorporated into the roof of a Basque structure near the tryworks at Area J on Saddle Island. The seal vertebrae strung on ribs are shown as found in the pond at Twin Island-3. (Photo by Jack Martin)

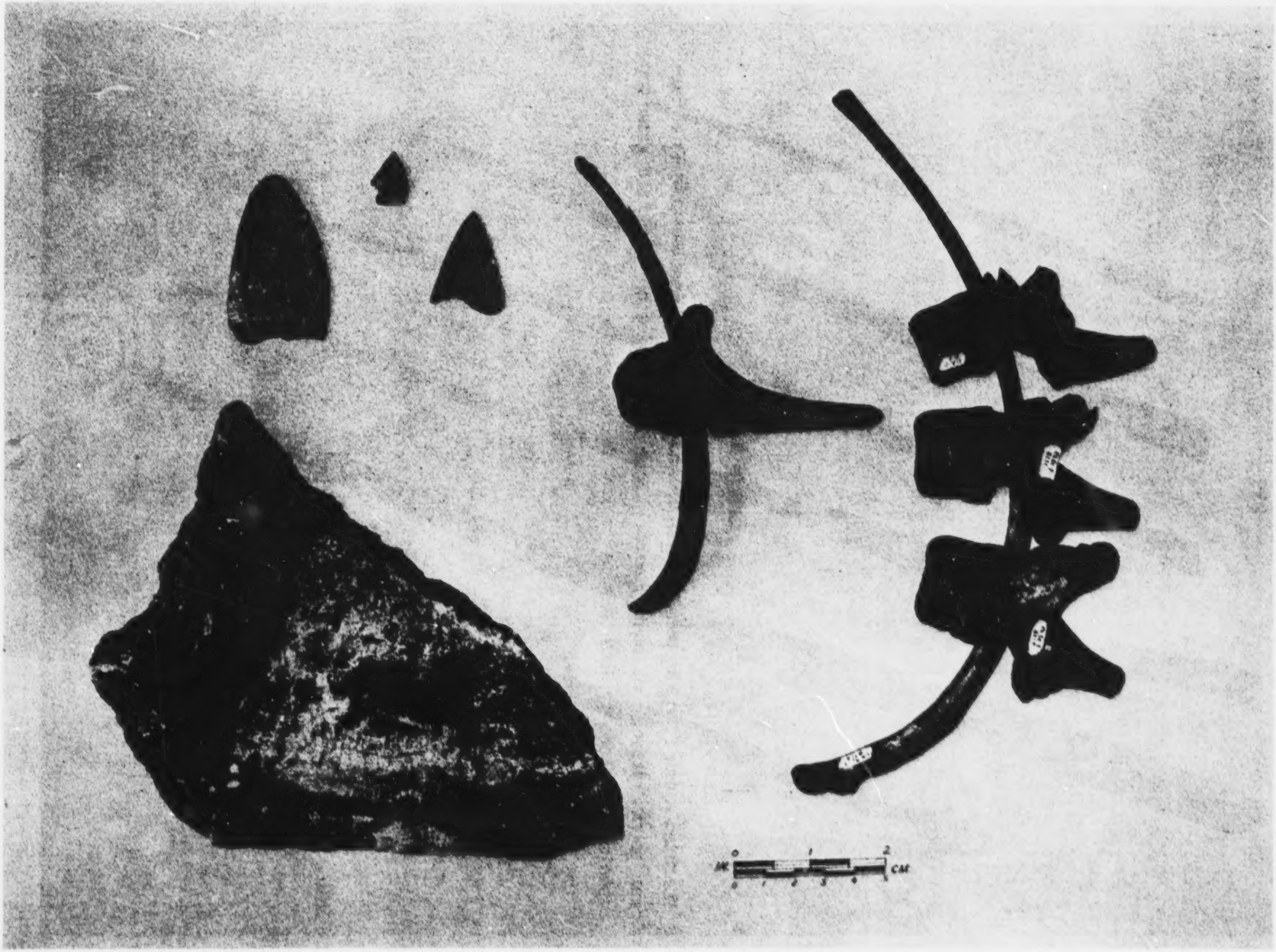
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Figure 3

Roasting spits from the pond at Twin Island-3. All are manufactured from barrel hoops, staves, or boat planks. Note the burning on the third from top specimen. (Photo by Jack Martin)

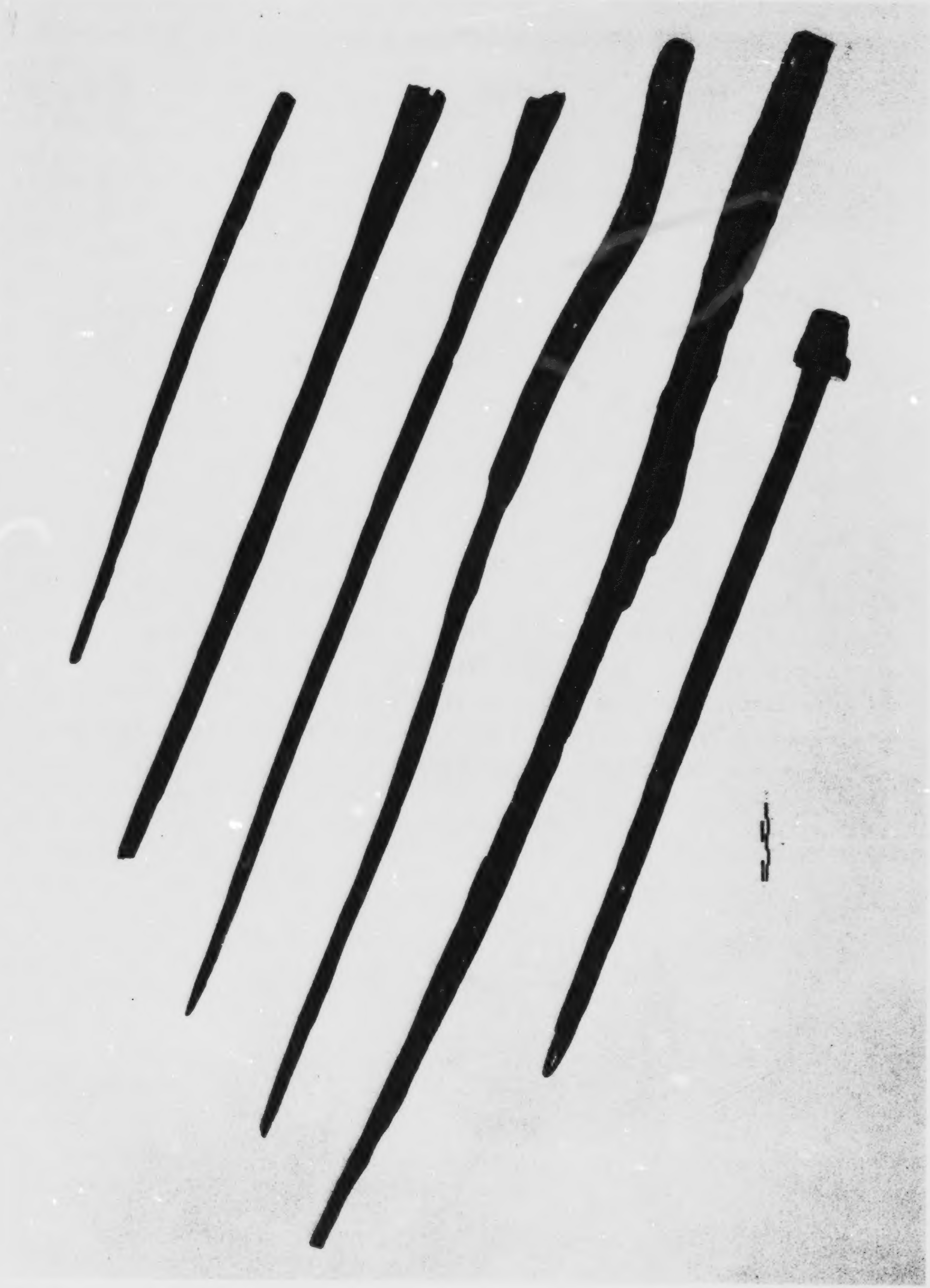

Figure 4

Boat parts from the Pond at Twin Island-3. A knee from a small boat is shown at the upper right. The two other fragments are from a much larger vessel. Note the triangular rebates into which the heads of fastenings were sunk. All were apparently brought to Twin Island as raw materials for the manufacture of other objects or for firewood. (Photo by Jack Martin)

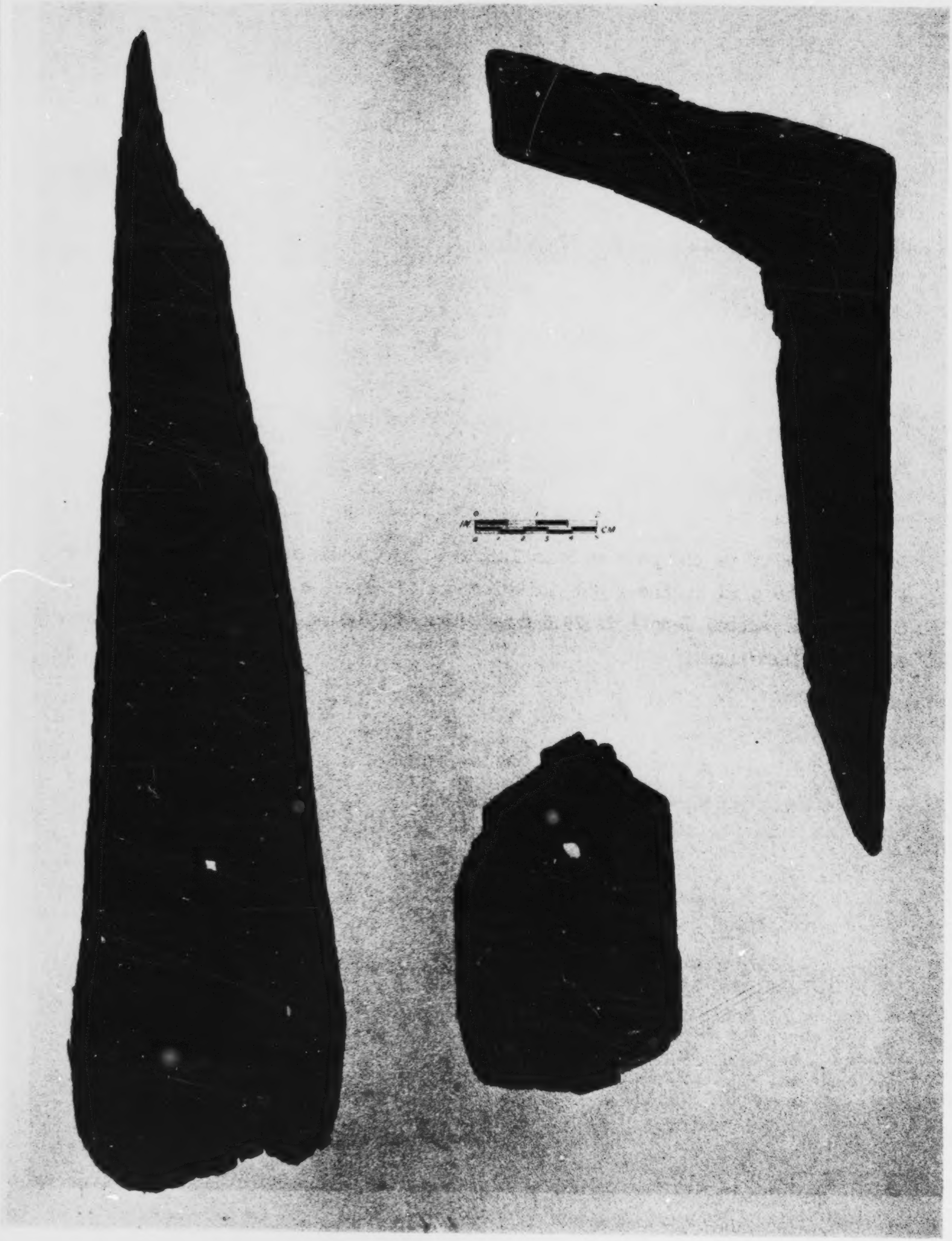
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Figure 5

"Tally stick" from the pond at Twin Island-3. Note the ownership marks at the left and the grid at the right in which each box has a line or lines carved through it. Actual length is 29.5 cm. (Photo by Jeremy Powell, Canadian Conservation Institute.)

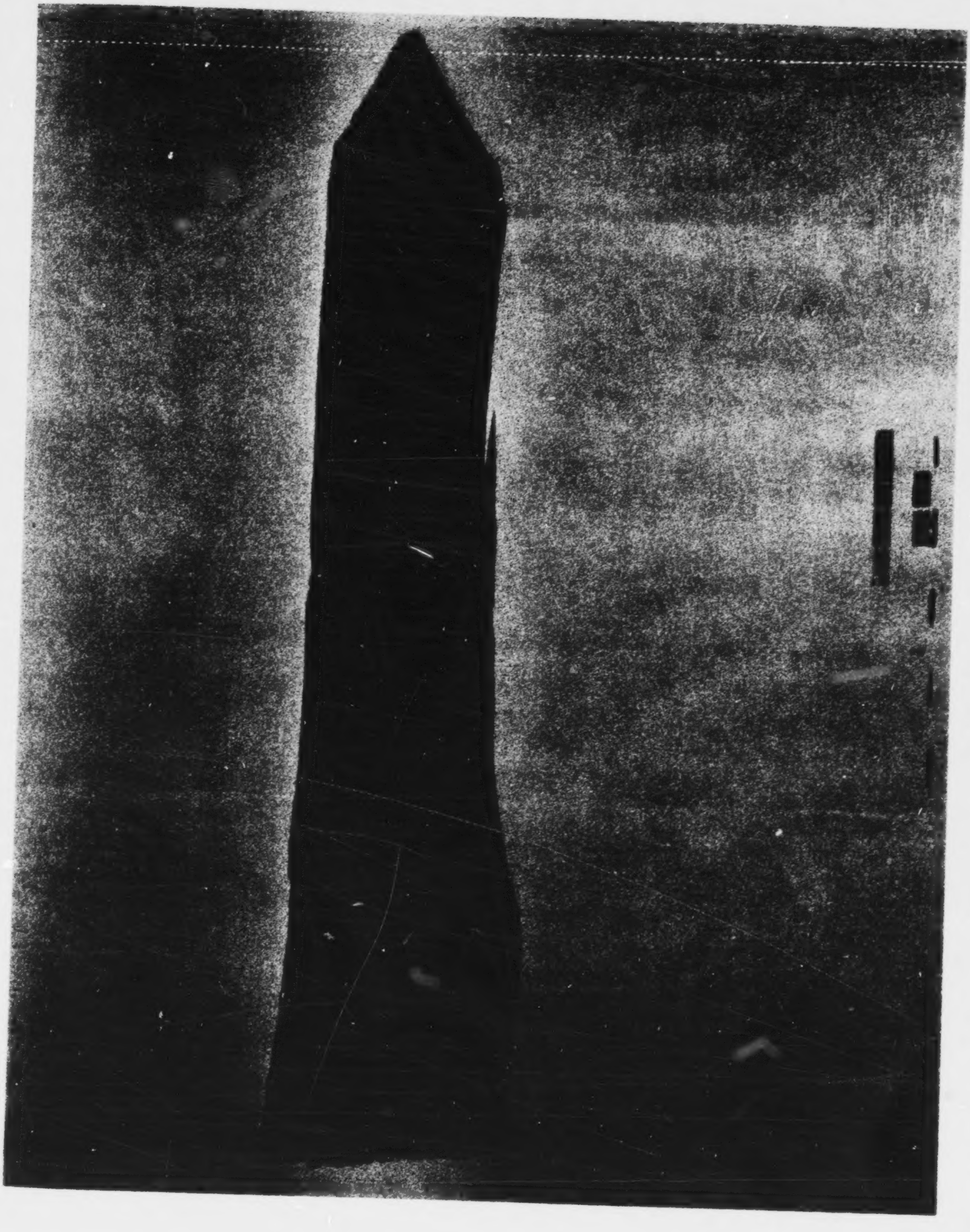


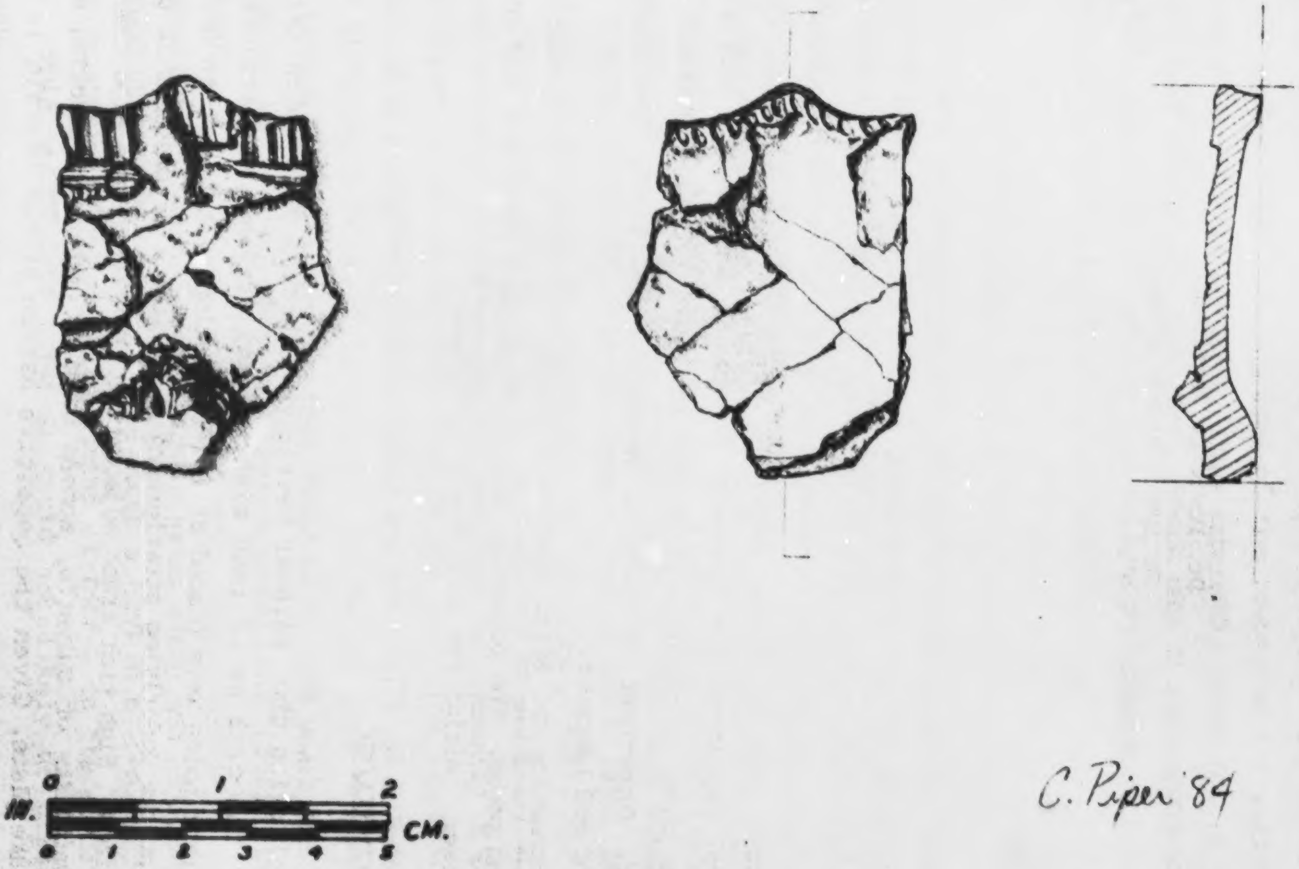
Figure 6

One piece glass drinking vessel from the pond at Twin Island-3. The height of the glass is 15 cm and the capacity approximately 340 g. The weight of the glass itself when complete was approximately 85 g. (Photo by W. Bokman, Canadian Conservation Institute)

20 cm

Figure 7

Potsherd found above the floor and below the roof fall of a Basque structure at Area C. Note the high collar, castellated rim, incised decoration, annular impressions below the castellation, and pinched collar base, all of which are characteristic of Iroquoian ceramics. (Drawing by Carol Piper)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C. Piper '84

AN ARCHAEOLOGICAL SURVEY OF SCHOONER COVE, LABRADOR

by

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BACKGROUND

Under the joint sponsorship of the Department of Public Works, St. John's Regional Office, Newfoundland, and the National Museum of Man, Ottawa, I spent four days between June 25 and June 30, 1984, in an on-site investigation of L'Anse au Loup and Schooner Cove, southern Labrador. Assisting in the field survey was Pat Allen, Assistant Provincial Archaeologist, Culture and Historical Resources, New Brunswick Provincial Government. This survey work was done under Archaeological Permit No. 84-4 from the Historic Resources Division, Department of Culture, Recreation and Youth, Government of Newfoundland and Labrador.

Archaeological sites discovered during the survey are summarized in the following pages. The potential impact of proposed wharf and road construction is assessed. Mitigative actions are specified.

FIELD METHODOLOGY

Following the `Harbour Development Access Road' plan (Project no. 322173) the c. 3 km of road right-of-way (r.o.w.) was explored on foot. Shovel test holes were placed at intervals along the r.o.w. to determine the nature of the underlying stratigraphy and evidence of prehistoric or historic habitations. High risk areas adjacent to the r.o.w. were also examined where the possibility of culverts, access roads or other construction disturbance might take place. Given the sensitive nature of the terrain in this area which weathers easily on subsurface exposure, this latter consideration was given priority.

All finds made during the survey were recorded relative to the above mentioned survey plan. It was noted during the survey that marked stakes, particularly in the last 3 km sections of the route did not correspond to those indicated on the survey plan. This apparently arose out of the fact that several land surveys were conducted. Where lack of correspondence occurs this is noted. The aerial photo plan view oblique photographs included in the report should be consulted for precise site location.

DESCRIPTION OF PREHISTORIC SITES

Kilometre 1: (see map 1)

A single archaeological site was identified in the first kilometre of the survey plan (Aerial Photo 1, Site EjBf-3). Approximately 20 m north of the r.o.w. overlooking the community of L'Anse au Loup, the surface is scattered with large glacial erratic boulders. A small concentration of prehistoric artifacts was exposed in test cuts around several of these large boulders. The extent of the site was difficult to ascertain without considerable testing since the area is covered with a thick layer of lichen growth, however at its southern extent cultural deposits probably lie close to the r.o.w. Of interest at this point in the route was an old trail which more or less parallels the new highway leading down into the community of L'Anse au Loup. An important aspect of this site is its elevation relative to sea level. Various sites investigated by McGhee and Tuck (1977) at L'Anse au Loup correlated elevation with age of occupation. The Barney site (EjBe-18) which lies less than a kilometre away has been dated to c. 8000 years ago. Higher elevated sites may reflect even earlier occupations (Tuck: personal communication).

Examination of numerous sand blowouts areas along and adjacent to the r.o.w. turned up a single artifact find about a hundred metres south of the r.o.w. approximately at the same km. point as EjBf-3 on the route (Aerial Photo 1). This small site (EjBf-4) would not likely be affected by construction.

Kilometre 2:

No archaeological evidence for prehistoric or historic occupation areas was detected in this section of the road access. Of concern however is an historic trail linking L'Anse au Loup with Schooner Cove (Aerial Photo 1). The trail intersects the road access r.o.w. and follows the same route down into Schooner Cove. The trail is clearly well established and likely has been in use over at least the past three or four centuries as a path and horse and wagon route. This trail was probably used in prehistoric times as well. The highest portion of the trail, which follows a natural levee along the edge of a several hundred foot high escarpment provides a no less than spectacular view of L'Anse au Loup Bay and Schooner Cove. Road construction would totally eliminate this section of the trail.

Kilometer 3:

The last section of the route includes both the access r.o.w. through Schooner Cove and the wharf facility. Most of the archaeological evidence found during the survey pertains to this section of the route. Sites found in the road r.o.w. will be discussed first, followed by those in adjacent areas.

Road R.O.W. Area: Just west of the meandering freshwater stream which flows into Schooner Cove, (km 2+916), a dense concentration of stone chipping detritus lay exposed in a sand blowout (Aerial Photo 2, Site EiBe-3). Several small exposed hearths and fire cracked rock suggest a small prehistoric encampment. Exposed profiles and testing around the blowout indicate that only part of the site has been exposed.

Cultural Affiliation: The predominant material used here was a fine-grained quartzite with also some Ramah chert present. The paucity of diagnostic tools in the collection precludes satisfactory identification. While similar materials are frequently found in association with Maritime Archaic assemblages, the Ramah Bay material is often associated with more recent occupations as well.

East of the freshwater stream, in the flat area behind the cove, testing produced two other areas of prehistoric artifact concentrations (Aerial Photo

2, EiBe-2). The first concentration (km 2+880) appears to cover an area c.10m in diameter although without extensive testing this may extend further. About 50-60 m east from this point as the road r.o.w. turns north, parallel to the hill slope, another concentration of prehistoric material showed up in test excavations at a depth of 30-40 cm. Too little diagnostic material was found to assign an age estimate other than prehistoric. This location had been recorded previously by J.A. Tuck as a small Maritime Archaic site.

Close to the proposed wharf position at the point, a thin soil horizon containing prehistoric artifacts was encountered in test excavations (Aerial Photo 2, EiBe-1; site previously recorded by J.A. Tuck as of Groswater Palaeo-Eskimo affiliation). Beginning at the first flat area at the base of the hillside and following the shoreline along 50-75 m towards the point, test holes indicate an underlying cultural horizon. Lithic artifacts were also found eroding from the embankment erosional face along most of this section. It appears from the distribution of artifacts that the entire point was likely occupied prehistorically. The stratigraphic position of artifacts relative to more recent historic materials in test holes suggests that at least some parts of the site remained relatively undisturbed despite probably four centuries of subsequent historic activity.

Cultural Affiliation: Although the assemblage is quite small, lithic artifacts have been tentatively identified as Palaeo-Eskimo in origin. A similar cultural component has been identified by Tuck less than a kilometre away on the shore towards L'Anse Amour. (Tuck: personal communication).

Area Adjacent to R.O.W: Several prehistoric sites were located in close proximity to the r.o.w. and should be regarded as sensitive given the fragile nature of the surface and sandy subsoil. Two artifacts producing areas, here regarded as part of the same site (Site EiBe-5 on Aerial Photo), were found along the erosional face of the stream bank between the road r.o.w. and Schooner Cove beach. Exposed in soil profiles were a series of alternating light sand and dark organic cultural levels indicative of repeated occupations. Although the meandering river is slowly eroding away this site, tests several metres back from the erosional face still produced artifacts.

Cultural Affiliation: Stone flakes of Ramah chert were found exclusively at this site suggesting a late prehistoric occupation. Noteworthy was the amount of charcoal eroding from the occupation levels such that the site could be easily dated.

Approximately 50 m to the south of the road r.o.w. (Site EiBe-4 on Aerial Photo) a small concentration of chipping detritus lay exposed in a sand blowout. Testing did not turn up additional material around the blowout although organic stains were visible on exposed soil sections. Most of this site has likely weathered away. The presence of Ramah chert once again suggests a late Maritime Archaic or other late prehistoric occupation.

HISTORIC REMAINS:

Evidence for historic occupation of Schooner Cove is extensive both in time and space. Examination of aerial photographs of the Cove show numerous surficial features and provide an indication of the extent of historic occupations. Because of the widespread occurrence of historic material pertaining to various time periods, there is considerable overlapping of activity areas. Hence it was difficult to isolate activity areas that strictly pertained to certain time periods. Much more extensive testing would be required to accomplish this task. At this stage in the discussion, suffice it to delineate two areas of historic activity.

Area A: (The Point):

The construction of the proposed wharf facility in this area would destroy or obscure any surficial deposits through either removal or covering with fill. The small amount of available land area between the hillside and water has confined much of the human activity to this area. In fact, a large component of the surficial deposits at the point have been created through human activity-related organic matter being deposited over centuries. In places this accumulation reaches greater than a metre in depth.

Sixteenth-Seventeenth Century Basque Remains (EiBe-1): One of the first identified 16th century Basque sites on the Atlantic Coast was Schooner Cove. The Barkham expedition of 1977 recovered a harpoon head from eroding deposits at the point along with ceramic tiles. Our investigations support these findings. A wide range of artifacts pertaining to the Basque period was found all along the erosional face in the area where the wharf is proposed (see Aerial Photo 2). Testing produced extensive organic remains such as whale bone, and cultural debris in the form of stoneware, ceramic tiles and metal artifacts. As this area according to local sources was heavily used in recent centuries, as one might expect the older Basque remains lie well beneath the more modern accumulated debris. The shoreline edge shows considerable evidence of weathering and conceivably the front portion of the original Basque site has since washed away. Surface depressions situated at the back of the site against the hillside may pertain to the early period. Similar features associated with the 16th century Basque occupation at Red Bay, 50 km north from Schooner Cove, were ovens used in the production of whale oil. Other depressions on the site are clearly artificial and may be remnants of building platforms. An interesting feature adjacent to the proposed wharf is a rectangular house constructed of sod. The walls and central front entrance are still visible. A more modern trail cuts through the central part of the house suggesting a considerable age. Testing provided details of the sod construction but no artifacts which might have indicated cultural identity were found.

Eighteenth-Nineteenth Century Remains: Collections of artifactual material from the erosional face and test excavations indicate major activities during this later period. According to local sources this area was extensively used by whalers in the late 1800s and first few years of this century. A wharf was built during the 19th century just inland from the proposed wharf construction site. Any evidence of this wharf has since disappeared. Immediately behind the wharf site accumulations of whale bone are visible protruding through the soil surface. Local informants speak of `piles of whalebone' accumulating back of the old wharf as biproducts of the whaling industry. Most of this bone was apparently carried away by processors from Newfoundland.

Area 2 (The Cove):

The cultural deposits encountered in this area represent an extension of those found at the point. However, coastal erosion has weathered away much of the shoreline embankment between the two areas over the past few centuries. Remaining is a rocky beach zone which produced numerous artifacts from this early historic period. Perhaps the most spectacular find was a large ship anchor, 4 m in length by 3 m in width. Robert Grenier of Parks Canada believes the anchor to be of an early design and likely pertaining to this early historic period. The unusually good preservation of the iron is probably due to the brackish nature of the water given the proximity to the outlet of the freshwater stream (see Aerial Photo). Due to the considerable weight of the anchor (about 200 kg) recovery was not possible. This unusual find should be salvaged as soon as possible.

Also clearly delineated in this area is the line of rocks probably originally assembled in Basque times as part of a wharf foundation to accommodate vessels loading and unloading. A local old time fisherman remarked that the cove has silted up in recent years and was markedly deeper earlier in the century.

Sixteenth-Seventeenth Century Basque Remains: Definition of the extent of this material would require considerably more testing and excavation. Testing along the hillside back of the cove produced a c. 60 cm deep deposit of black organic soil and ash. Recovered artifacts in this area include ceramics, metal and bone. A number of associated surface depressions were at one time excavated into the hillside and may represent oven areas or small buildings of some kind. These extend 30-50 m back from the beach and lie in the center of the road r.o.w.

A major area of historic activity is evident at the outlet of the freshwater stream. Here, the meandering freshwater stream has cut through the deep sand deposits exposing a series of buried organic cultural horizons. The deepest organic zone which is well over a metre beneath the surface produced metal, ceramic and some preserved perishable material. The deposit is extensive and runs for 60-70 m along the exposed river bank.

Eighteenth-Nineteenth Century Remains: The major historical impact on this area is associated with the whaling station activities during the latter part of the 19th and early 20th century. Remnants of the heavy machinery used in the whale processing still clutter the surface to the east of the freshwater stream outlet. Some indication of the extent of this activity is revealed on an aerial view of the site (see Aerial Photo). Foundations of earlier buildings are also visible and probably relate to 18th and 19th century occupations. A number of the buildings still show the outline of a shallow foundation in flag stones. The richest organic level represented in the stream cutbank profile probably relates to this time period. Fragments of metal, ceramic, leather, wood and other perishables are well preserved in this zone. Also of interest was the remains of a 19th century shipwreck which now lies partially exposed in the sand along the edge of the freshwater stream outlet. Only the bottom ribs and some of the planking remain preserved.

SUMMARY OF ARCHAEOLOGICAL SITE SURVEY

A three day survey of Schooner Cove and access r.o.w. route from L'Anse au Loup has identified at least five prehistoric sites. These range in age from early to late occupations possibly spanning as much as 7000-8000 years. Sites tend to be small in size and probably reflect repeated seasonal occupations of comparatively short duration. A single prehistoric site was located in km 1 of the r.o.w. All remaining sites were found in Schooner Cove.

Historical occupation of Schooner Cove was varied and extensive. Perhaps most significant are the remains of a 16th century Spanish Basque whaling station. The location of the site falls directly in line of the wharf and access r.o.w. Although not investigated during this survey, the possibility of submerged vessels and certainly other artifactual material off the shore at the wharf location is considered quite probable given what is known of the similar Red Bay Basque site situation.

Judging from the archaeological evidence, subsequent occupations following the Basque period appear quite extensive. Cultural deposits seen in almost every part of the cove reflect this continued human activity likely associated with fisheries or sealing/whaling industries. Occupation of the Cove culminated in a late 18th, early 19th century major whaling operation, the physical remains of which are still visible on the surface today.

Sites Visited

Schooner Cove	EiBe-1,-2,-3,-4,-5
L'Anse Amour	EiBf-4
L'Anse au Loup	EjBf-3, -4
L'Anse au Clair	EiBg-7

RECOMMENDATIONS

1. Archaeological sites, historic and prehistoric, were found to be extensive in the survey area, in particular at Schooner Cove (km 3) and mitigative action must be considered in the event construction proceeds:

a. The rare nature of the Basque site, the second only of its kind yet found in North America, requires special archaeological attention. Because of the location of the proposed wharf and approach area, the habitation, whale working area and wharfage would be totally destroyed or covered with fill. An extensive salvage archaeological project requiring considerable time, manpower and financial support would be necessary.

b. Prehistoric sites found might require a modest field crew to salvage. The fact that one of the more important components underlies the Basque level at the wharf site precludes excavation prior to investigating the Basque and more recent historical occupations.

2. Given the unique setting and historical nature of the trail leading from L'Anse au Loup to Schooner Cove, every effort should be made to preserve this ancient route if possible.

3. The possibility of offshore archaeological resources in the vicinity of the proposed wharf remains an important consideration. This area should be examined in the near future by an experienced underwater team to assess the extent of resources.

4. If construction of the access road and wharf proceeds according to schedule, archaeological personnel should be on-site during the construction phase to salvage and record whatever possible of archaeological remains.

5. Schooner Cove remains as one of the last bays along the Labrador coast which has not seen development, The special natural setting combined with the wide range of historical resources found here argue strongly for conservation for future generations. The wharf and access road construction, as proposed, is not compatible with the above considerations. If at all possible, alternate choice of wharfage location is recommended.

Labrador Field Survey, June 1984

Site name	Borden No.	Catalogued	Total recovered
Schooner Cove	EiBe-1:	121	249 specimens
Schooner Cove	EiBe-2:	1	4 specimens
Schooner Cove	EiBe-3:	21	337 specimens
Schooner Cove	EiBe-4:	7	72 specimens
Schooner Cove	EiBe-5:	8	39 specimens
L'Anse Amour	EiBf-4:		1 specimen
L'Anse au Loup	EjBf-3		17 specimens
L'Anse au Loup	EjBf-4		1 specimen
L'Anse au Clair	EiBg-7	1	5 specimens
		Grand Total	725 specimens

Figure 1

Aerial photograph of survey area and sites identified.

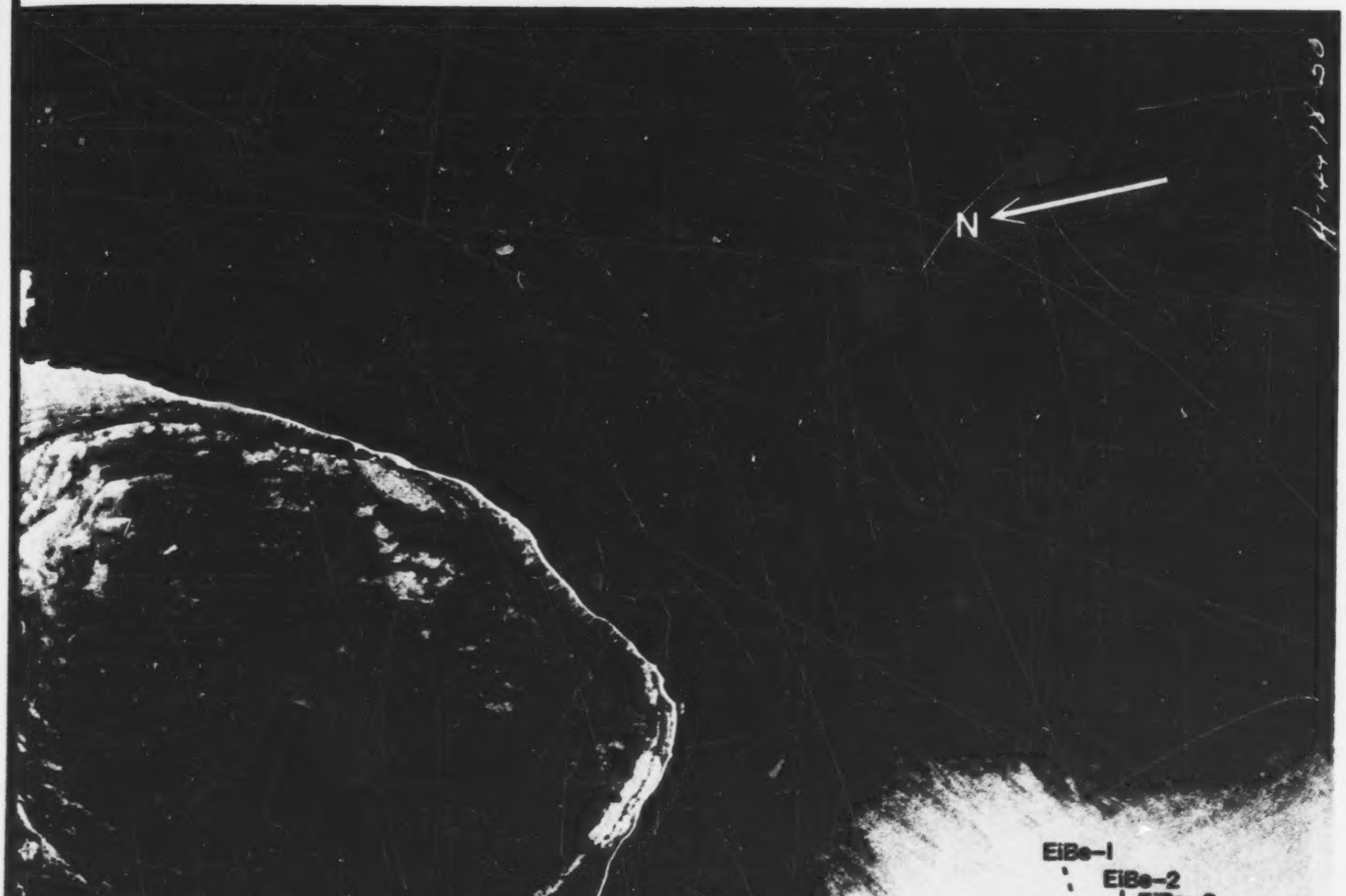
N
EiBe-1
EiBe-2
EiBe-3
EiBe-4
EjBf-3
EiBe-5
EjBf-4
Schooner Cove
L'Anse au Loup
A-14418 30

Figure 2

Aerial photograph showing Schooner Cove sites.

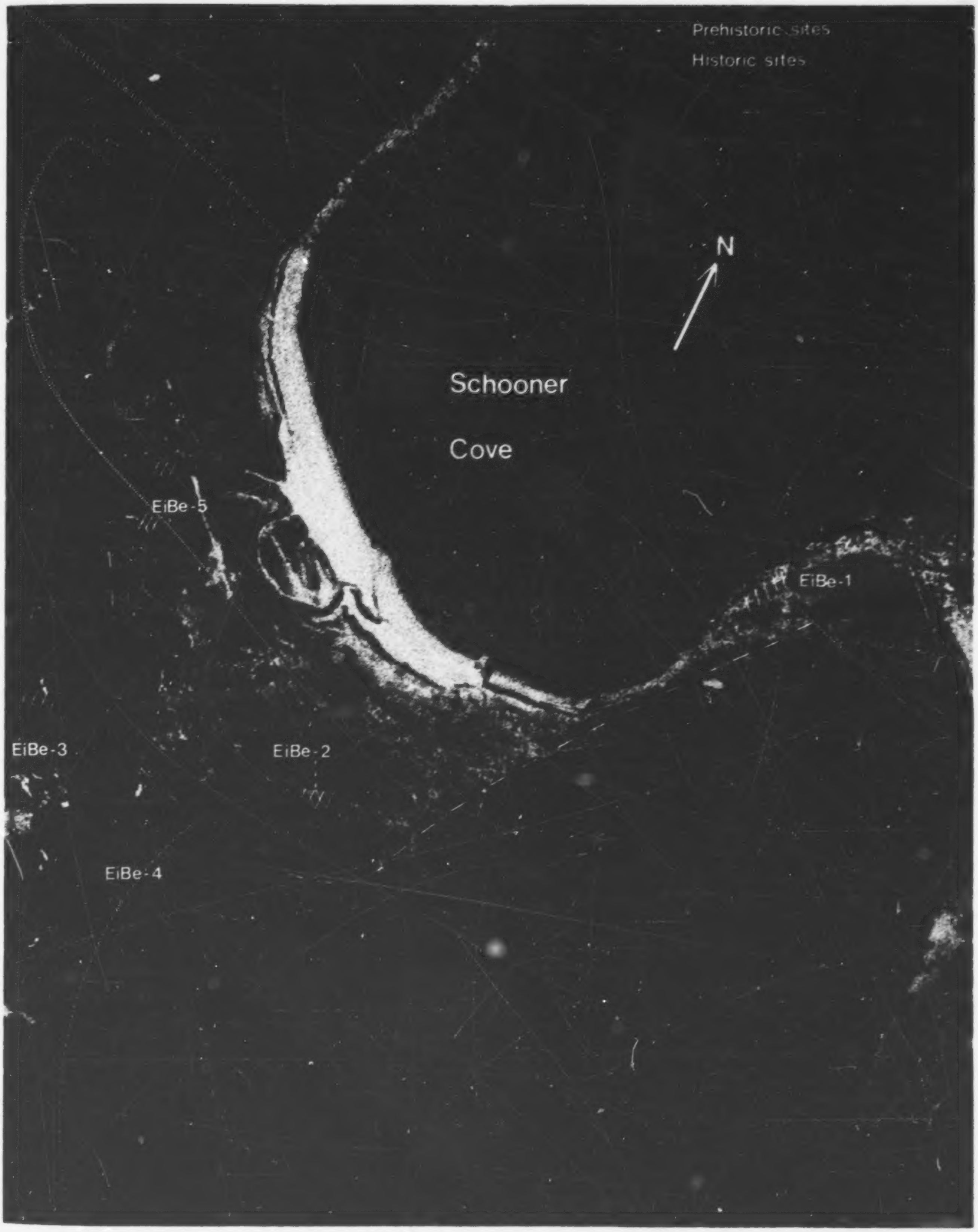
Prehistoric sites
Historic sites
N
Schooner
Cove
EiBe-5
EiBe-1
EiBe-3
EiBe-2
EiBe-4

Figure 3

Schooner Cove looking east.

Figure 4

Schooner Cove, Labrador

Prehistoric lithic material eroding from sand blowout. Looking northeast.

Figure 5

Schooner Cove, Labrador

Nineteenth century stone basement situated c.100 m inland from shoreline.

Figure 6

Schooner Cove, Labrador

Whalebone remains found lying on surface probably left from 19th century whaling station. This area also produced abundant remains of Basque ceramic tile and other related artifacts. L'Anse au Loup in background looking west.

Figure 7

Schooner Cove, Labrador

17th–18th c. iron anchor found lying in inter-tidal zone in cove. Anchor measures c.4 m in length.

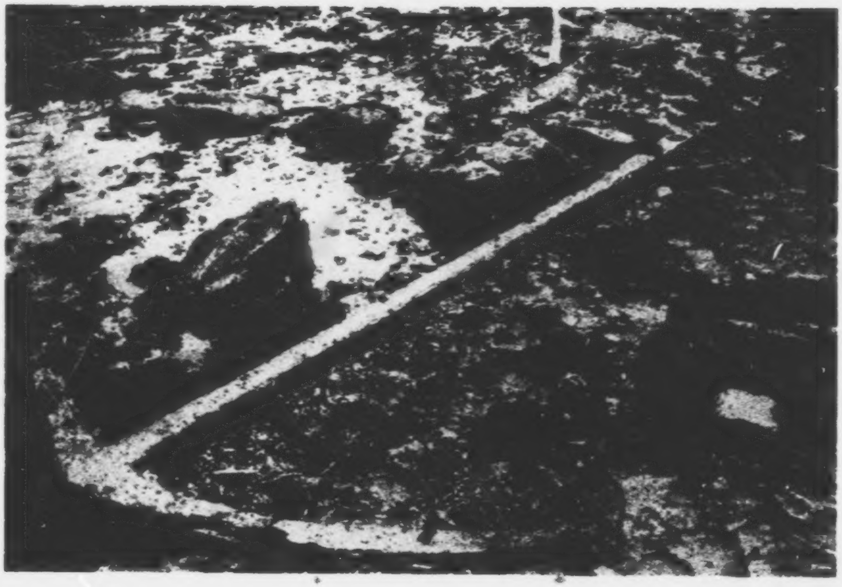

Figure 8

Historic trail between L'Anse au Loup (background) and Schooner Cove. Looking north.

Figure 9

Oblique aerial view of Cove looking westerly direction. Historic occupations indicated (X); prehistoric (Y). Note anchor in centre foreground.

Y
Y
Y
X
X
X
X

PROGRESS REPORT ON INUIT INVESTIGATIONS IN THE STRAIT OF BELLE ISLE

by

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Very little archaeological research on the presence of Inuit in southern Labrador has been conducted. With a few exceptions, research on the Inuit period has tended to concentrate on the area north from Hamilton Inlet (Jordan and Kaplan 1980). For southern Labrador, Martijn (1974) reported finding boulder structures in the St. Paul's River area (Figure 1). The only other mention of Inuit archaeological remains in the Strait of Belle Isle comes from Fitzhugh (1983) who described two houses on Degrat Island (Figure 1). Fitzhugh suggested that on the basis of their shapes and the artifacts recovered the houses probably relate to an 18th century Inuit occupation. The report that follows summarizes the result of test excavation of these two houses by the author during the summer of 1984.

Before going into detail on the excavations at Degrat Island, I shall briefly consider some recent historical interpretations pertaining to the Inuit in the Strait of Belle Isle. Many historic documents have been examined by Martijn (1980), Clermont (1980), and Taylor (1980). These contributors have presented contrasting interpretations of the historical documents, and these issues are at the centre of the present research.

The most pressing issue raised by Clermont and Martijn's historical research concerns the problem of the timing and nature of Inuit-European contacts in the Strait of Belle Isle. Clermont (1980) postulated that the Inuit were in contact with Europeans in this area for the purpose of acquiring metal, probably as early as the end of the 16th century and on through the 17th century. This view is supported by Martijn (1980) who believes that there was a small year-round Inuit population between 1640-1690.

Taylor (1980), however, posed the question of whether the 16th and 17th century documents refer to Inuit or to Indian groups. He maintained, using

Jordan's and Kaplan's (1980) data that the Inuit did not move south of the Nain-Okak area until sometime during the 17th century, and that Hamilton Inlet may have been the southern terminus for their expansion (Taylor 1980:193).

The 1983 fieldwork conducted by Pastore and Auger (1984) on the north shore of the Strait of Belle Isle has lent temporarily some support to Taylor's interpretation that the Inuit were not attracted this far south before the modern period (1760-today). Pastore and Auger found late 18th to early 19th century remains in three sites: material from Twin Islands has been tentatively interpreted as resulting from temporary hunting or trading Inuit camps; at Wiseman Cove, another house was dated somewhat later than the Twin Island occupation, circa early 19th century; and two sod houses were discovered at Black Bay. However, there is still doubt as to whether all these houses had really been occupied by the Inuit, as diagnostic artifacts such as trade beads, worked nails, spikes, and soapstone were scarce. The purpose of the 1984 fieldwork was to identify alternative criteria, architectural as well as artifactual, for the definition of an Inuit occupation. Research on the southern shore of the Strait of Belle Isle (Figure 1) was formulated with two main objectives: to excavate one house at the Degrat Island-1 site, and to survey the south shore of the Strait in order to determine the spatial and temporal distribution of sites found.

Degrat Island (Figure 1) is a small treeless island, without any fresh water roughly 0.5 km^2 in area. It is situated in a cove on the seaward side east of Quirpon Island. A shallow tickle not deeper than 1 m at low tide separates it from Quirpon Island. On the south side of the island there is a deep harbour sheltered against most winds. Strong currents going around Cape Bauld 2 km to the north keep the Cape area ice-free for most of the year. Depending on wind conditions in February the edge of the pack ice will vary from 1 km to approximately 10 km off shore when the harp seal herds start to migrate around White Islands. The toponym "degrat" has various meanings in French: one designates a harbour from which the seasonal fishermen work after mooring their schooner; it can also mean the state of a boat when it is loaded and ready to return to its point of departure.

DEGRAT ISLAND-1 SITE

Altogether 27 days were spent excavating at Degrat Island-1. House 2 (Figure 3) was better defined than the other house and in more imminent danger of disturbance from water erosion. House 1 was sampled only. The following report on the fieldwork offers some preliminary interpretations from laboratory analysis.

Prior to excavation, House 2 (Figure 4) was rectangular in outline, roughly orientated east-west, and measured 7 x 5 m. Topography was an important factor in the house location; its length runs parallel to a bedrock outcrop. A lower ledge was probably used as a sleeping area. The floor of the house was composed of a series of flat stones tightly set together to create a pavement. The walls met at right angles and the material used to build them includes a mixture of sod blocks and rocks; it was impossible to determine where the doorway was located.

Stratigraphy

Scrutiny of the profile of a test pit made by Fitzhugh (1983) suggested a single occupation. Level I consisted of 8 cm of sod; level II, below it, of 33 cm of gravel and stones; level III, 10 cm of humus, wood chips and sterile coarse sand. Further excavation of the house in 1984 revealed a rather different picture.

Stratigraphy of the north wall (Figure 2) provides a representative picture of the stratigraphic sequence. Level I is the actual living vegetation, essentially grass. Level II is very thick in some areas, especially towards the centre of the house. It consists of a mixture of rocks and coarse sand as thick as 40 cm in some areas. The walls of the house were built of similar material, with some sod; it is assumed that most of the rubble forming level II came from the roof of the house after it collapsed. Level III is present throughout the excavation. This floor yielded most of the artifacts recovered. It is approximately 7 cm thick with some wood chips in it. Level IIIa is made up of discontinuous concentrations of yellow-stained pebbles and sand without any geological counterparts in the site vicinity. The apparent random distribution of the artifacts within it showing evidence of having been rolled at one time, suggests that the artifacts from level III and Level IIIa were subjected to some water action which thus resulted in the formation of Level IIIa. Level IIIb is a wood chip level present throughout the excavation except at the western edge where it is closest to the water (ca 30 cm asl Figure 2). It reaches as much as 12 cm in thickness toward the centre of the excavation and it is yellowish orange when freshly excavated. At places where it is thinner such as towards the western end it is more compact and contains some pebbles.

Aided by observations made on artifacts during the excavation, two occupations are suggested for the House-2 area. Starting with the most obvious, the occupants of House-2 (Figure 4) left a rectangular sod and stone-walled dwelling flanked against the bedrock outcrop. On the profile, that occupation relates to the base of Level II. The artifacts resulting from that last occupation come from the surface of the pavement at the base of Level II and throughout Level I. It rests on the remains of a previous occupation as evidenced by Level III and below. The artifact diversity and abundance coming from House-2 is not surprising when the results are compared to a 19th century picture of a sod house taken in Labrador and shown in Packard (1891:207). It shows a house where the roof was full of currently used and if we refer to the present house data, probably discarded objects. Furthermore, the elements that distinguish the House-2 occupation from the one earlier in time are the presence of decorated and undecorated creamware as well as numerous decorated pipe bowls (eg. Figure 5c).

In contrast to the most recent occupation as described above, the earliest occupation of House 2, represented by level III, beneath the pavement, shows an absence of the decorated creamware. Instead, there is a red paste type of ceramic and some salt glazed ceramics. These are associated with an older type of pipe, (Figure 5a), which could date back to the first half of the 17th century (James Tuck, personal communication). A preliminary inventory of materials is as follows:

House 2: Artifact Field Inventory

Axe, folding knife
Barrel hoop, stave, stopper, wooden plugs
Trade beads

Wine bottle, blue glass bottle, green glass
Creamware, red ware, stoneware, salt glazed ceramic
Red bricks, roof tile
Lead scraps, lead shot, gunflints
Fish hooks, nails, spikes
Pipe stems and bowls
Numerous unidentified metal fragments

House 1

House 1 (Figure 3) is located 20 m to the east of House 2. Faintly discernible sod walls formed three sides of the structure; the fourth was composed of a bedrock outcrop. A gap in the southern wall was interpreted as an entrance to the dwelling; an adjacent area of lush vegetation was perceived as the midden.

The eleven one-metre squares opened in this area revealed consistent stratigraphy throughout the exposed area of House 1. Levels I and II, the upper two strata (Figure 2), are composed of sod and a mixture of rocks and sand, respectively. Both strata contained artifacts. As with House 2, House 1 had a pavement at the base of level II and all artifacts were found above it. This pattern of artifact distribution further supports the argument that the material present throughout both levels came from material discarded on the house roof as well from the living floor. Strong similarities were noted in artifact assemblages and architectural features between the two houses.

The House 1 midden was very rich in artifacts as well as in faunal remains. Preliminary analysis indicates seal, bird and an abundance of fish bones. A few molars recovered compare well to pig teeth.

After observations made of the artifacts during the excavation there seems to be little temporal difference between House 1 and House 2 upper level. Not only is the artifact content very similar, but architectural features such as flanking the house against the bedrock outcrop and the presence of a pavement in both houses make them very comparable.

House 3

House 3, located 136 m to the southwest of House 1, was discovered after a growth of vegetation attracted our attention. One testpit was excavated in its entrance and another in the midden. It appears to have been a sod house measuring 5.2 by 4.6 m. The vegetation distribution within the house suggested that there was probably a sleeping platform at the rear of the house. Both test squares show a series of tightly fitted flat stones 15 cm below the surface which compared to the pavements described for the two previous houses. The better-than-usual artifact preservation suggests that the occupation of House 3 may have been a little later than that of House 1 and 2, perhaps in the early 19th century.

SITE SURVEY

The unanticipated time-consuming excavation at the Degrat Island site shortened the time originally allocated for the survey. Nonetheless, seven new sites were discovered in the survey area shown on Figure 1. Based on house shapes, and the material recovered during sampling, four of these sites are of direct relevance to the present research. Those sites provisionally considered to pertain to Inuit occupations are Grapnel Cove, Wild Cove, Southern Cove, and the Irish Rock site. Altogether six sod houses were recorded at these sites. They all yielded artifacts dating from the historic period. The first three sites are located on Quirpon Island, while the Irish Rock site is located in the St. Lunaire vicinity.

The Grapnel Cove site had two well preserved sod houses with walls 1 m thick. These have corner entrances and a raised area to the rear. The first house test-pitted did not yield any cultural remains but did contain a thin humus level. The second house had some wood chips, glass and coal fragments in its midden deposits.

The two houses discovered at Wild Cove probably also represent single historic occupations. One house, measuring 4 by 3.8 m, was built using a bedrock ledge as its fourth wall and has a corner entrance. The other house is oval in appearance and has been disturbed by later activities at Wild Cove.

Sampling of the sod house found at Southern Cove yielded a profusion of nails as well as creamware and clay pipe fragments. This house is situated between two cliffs which shelter it from the winds. The gap in the wall perceived as the entrance opens towards the south. The stratigraphy is essentially the same as in the other sod houses sampled during the summer: one level of sod, one level of humus containing some artifacts, and the main cultural level. The major visible difference is in a level of charcoal, found just above the living floor. Although this observation comes from only one testpit within the house, it is probable that the house burned down with household goods still in it. This would explain why it was covered by such an impressive mound of lush vegetation in contrast to the surrounding surface.

The last site of relevance to the present research is the house located at the Irish Rock site discovered by J.A. Tuck (personal communication) in the early 1970s. A rectangular house is located in hummocky, damp ground. A gap in the wall at the south west corner is interpreted as an entrance to the dwelling. The occupation layer, 15 cm below the surface, did not contain any ceramic or glass, but many nail fragments, some well preserved wood, a gunflint made of what seems to be a local raw material, and a musket ball were recovered.

OTHER SITES

One day was spent surveying at Noddy Bay, 2 km west of Quirpon Island. A low quality soapstone outcrop was located but none of the cliffs in the area showed any sign of having been quarried.

Another somewhat more interesting site was located in the same bay. This site contains what is possibly an oven. This feature is circular, 1 m in diameter, and sunk into the ground. It had been constructed using locally available flat stones imbricated into each other. The feature preservation did not allow me to establish whether or not stones had been mortared. In any case, the soil sample taken between the stones should allow me to determine if the material was available locally or imported. The reddish color on the exposed surface of the stones suggests that heating might have been the cause of the discoloration. Some nails and burnt fat were recovered from this feature and iron spikes were noticed on the beach below. The physiography in front of the site, such as the sheltered harbour and the sloping bedrock, are features reminiscent of other whaling stations in the Strait of Belle Isle.

The Partridge Point site was brought to our attention for it contains an impressive feature measuring 16.5 by 18 m, located on a series of raised beaches 3.5 m above sea level. Two circular depressions behind the feature and a small pond form the rest of the site.

Ascribing this site to a particular culture is problematic. Although we recovered two middle Dorset tip fluting spalls and a handful of flakes in a test pit at the back of the feature, and another chert chip from one of the depressions, the main type of feature is not typically late Paleo-Eskimo. Another possible interpretation is that the feature is a garden in which all the stones were pushed to the side thus creating this raised quadrangle. However, one test pit in the eastern wall shows that its walls are made of a rather sandy matrix. The absence of a humus level and its isolation from the nearest community provide additional reasons for discarding the garden theory. A house foundation is similarly unlikely as fisherman's houses are generally much smaller, and associated with others. A final tentative explanation for this feature could involve the Norse presence in the area, such as was found at L'Anse aux Meadows, 7 km to the west. McGovern`s 1980 research in Greenland shows that Norse people used to keep their livestock in byres close to pasture ground. The area surrounding the Partridge Point site is treeless and could have offered some meagre pasture land at one time.

The last recorded site of interest has been called the Hedderson site after a Quirpon resident working with us. This site was thought for a few days to be a Labrador Inuit site dating from the 20th century since we had found a centre firing cartridge in a test pit and some pieces of a cast iron stove. Even though the houses looked exactly as one would expect of a Labrador Inuit house, with massive walls and a gap for the entrance, we learned after a few days that they had been used by Newfoundland sealers at the turn of the century. The last one had been occupied 40 years ago by a resident of a nearby community, Lewellyn Hillier, who used to be a sealer until he got married. Hillier was interviewed at the site and provided the following account of his house and the activities pursued on the White Island.

The first spring that Hillier decided to try his luck at sealing, he was accompanied by his friend Ben Smith. They tried at first to stay under a canvas tent but found it too cold. Then they decided to refurbish one of the sod houses (Plate 6, House 1) that had been abandoned a few years earlier when the market for seal pelts was low. This they accomplished by digging at the centre of the structure and piling the sod blocks around it. The house is described as measuring 3 by 3 m, with a board floor, which was confirmed during the testing. Furniture was simple: bunk beds, a bench and a stove. No personal goods were left behind after the sealing season except for the stove and the built-in furniture. The house had only one window, and a single door with an outside access passage made by piling sod. When out at this sealing post, the diet would consist mostly of seal and bird meat. Luxuries brought in included potatoes, salted meat and sometimes beef. Limited sampling of the midden of the six houses revealed some clues regarding the sealer's clothing: some buttons were recovered, as well as the sole of a creeper (studded shoe) and some leather.

Hillier and Smith quit sealing after the former married, and the site was permanently abandoned. Additional research at this site would yield valuable information for further documenting the Newfoundland sealing epic.

DISCUSSION AND CONCLUSION

Two major points arising from last summer's research deserve particular attention. As well as a European presence, there was a permanent settlement which can be interpreted as historic Inuit on Degrat Island, if a winter house may be called permanent. If European, this settlement occurred much earlier than is known for any other European settlement in the region. If we accept Thornton's (1974) interpretation, permanent European settlement on the south shore of the Strait of Belle Isle did not commence before the turn of the 19th century. On the other hand, if the house excavated at Degrat Island and the others recorded are of Inuit origin, they offer a picture rather different from what was known so far of Inuit history.

In very broad terms it can be said there were occupants who left material dating from the first half of the 17th century and the succeeding century. As evidenced from the survey, though, other occupations of the area would date from the later period: again, due reserve is recommended since the sampling of those sites was limited.

Pending laboratory analysis, ideally I should refrain from ascribing a cultural affiliation to the material recovered since it is comprised of European-manufactured artifacts coming from what appear to be Inuit houses. Nevertheless, it has been demonstrated before by Jordan and Kaplan (1980) that the 18th century Inuit in Labrador did not have much left in terms of traditional material culture; moreover that phenomenon can be amplified when we deal with Inuit living in close relation with European fisherman or their premises.

From the data obtained last summer, I tend to favour an Inuit occupation. Except for the fact that we did not recover any soapstone, the rest of the artifact inventory compares relatively well with central Labrador collections reported by Jordan and Kaplan (1980). In terms of house types it remains to be investigated if Europeans could have lived in sod houses for the time they spent in the Strait of Belle Isle, which is presumably the summer. A mixed Inuit-European 19th century population is also a possibility.

Further clues from site distribution and historical accounts exist to support an Inuit occupation. Not only are the sites situated in areas considered too exposed to elements by European standards, but there are never more than two houses at the same site. Reconnaissance in 1984 has revealed a concentration of sites around Quirpon Island. There exist in the historical literature mentions of encounters between Inuit and Europeans in the Quirpon area in 1764. Pallisser was writing concerning the French disposition towards the "Esquemeaux Savages"... "the French found means to invite them over to Querpont where they traffik'd with them" (P.C. 214:933). For that matter the remains excavated at Degrat Island could very well be from the Inuit the missionary Jens Haven met at Quirpon Harbour in September 1764 as it is reported in Gosling (1910:257-259) and P.C. (no. 214:933).

FUTURE RESEARCH

Since the settlement concentration and the research potential has been demonstrated for the southern shore of the Strait of Belle Isle, further research is planned for the northern shore. A consideration of 1984 research indicates that more excavations are needed before the ethnic identification of the people who left remains in those sod houses dating from the first half of the 17th century onward can be accomplished. Future research should therefore concentrate on surveying for new sites from Blanc Sablon to Cape Charles. In the eventuality of the discovery of a site being of definite Inuit origins for the time period concerned by the present research, systematic excavation should be undertaken.

ACKNOWLEDGMENTS

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REFERENCES CITED

Clermont, Norman
1980 Les Inuit du Labrador Méridional avant Cartwright. Etudies Inuit Studies, 4 (1-2):147-166.

Fitzhugh, William W.
1983 Archaeological Surveys in the Strait of Belle Isle. In: Archaeology in Newfoundland and Labrador 1982 Annual Report 3. Jane Sproull Thomson and C.Thomson (eds.), Annual Report 3: 118-132, Historic Resources Division, Department of Culture, Recreation and Youth, Government of Newfoundland and Labrador, St. John,s.

Gosling, W.G.
1910 Labrador: Its Discovery, Exploration, and Development. Alston Rivers, London.

Jordan, Richard H. and Susan A. Kaplan
1980 An Archaeological View of the Inuit/European Contact Period in Central Labrador. Etudies Inuit Studies, 4, (1-2): 35-46.

Martijn, Charles A.
1974 An Archaeological Research on the Lower St. Lawrence North Shore, Quebec. In: Archaeological Salvage Projects 1972, William Byrne (ed.) Archaeological Survey of Canada Mercury Series 15:112-130. Ottawa.

1980 La Presence Inuit sur la Cote-Nord du Golfe St-Laurent a l'Epoque Historique. Etudes Inuit Studies, 4 (1-2):105-126.

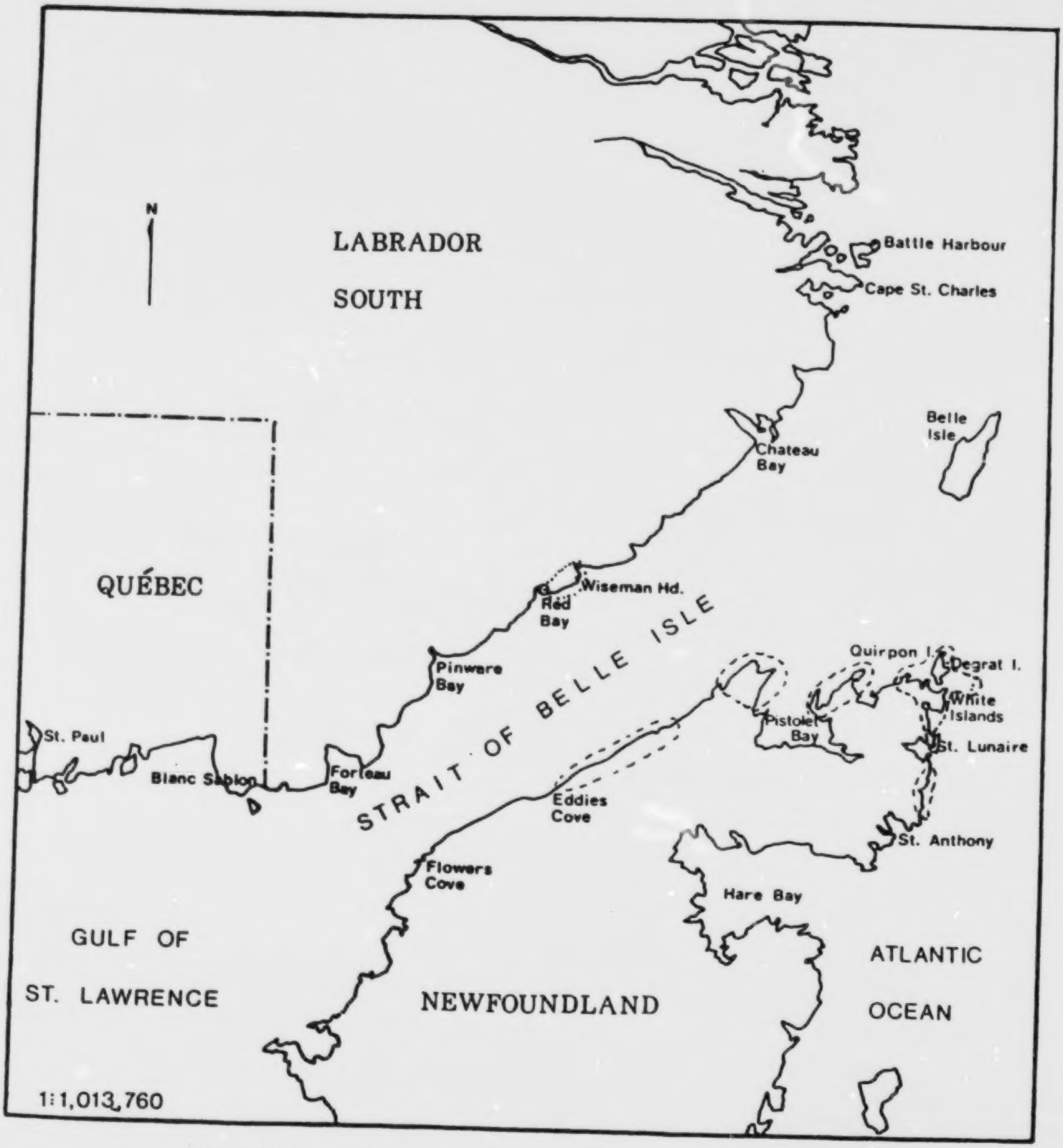
McGovern, Thomas H.
1980 Cows, Harp Seals, and Churchbells: Adaptation and Extinction in Norse Greenland. Human Ecology, 8 (3):245-275.

Packard, Alpheus Spring
1891 The Labrador Coast. A Journal of Two Summer Cruises to that Region N.D.C. Hodges Publ., New York.

Pastore, Ralph and R. Auger
1984 Archaeological Investigations at Red Bay and Black Bay, Labrador. In: Archaeology in Newfoundland and Labrador 1983, Annual Report 4: 55-69, Jane Sproull Thomson and C. Thomson eds., Historic Resources Division, Department of Culture, Recreation and Youth, Government of Newfoundland and Labrador, St. John's.

Privy Council, The British
1923 In The Matter of the Boundary Between the Dominion of Canada and the Colony of Newfoundland in the Labrador Peninsula. 12 volumes, William Cloweb and Sons. London.

Thorton, Patricia A.
1074 The Evolution of Initial Permanent Settlement on the Strait of Belle Isle. Unpublished report to the Harlow Seminar on Nineteenth Century Newfoundland Settlement, May 27-29, 1974.


N
LABRADOR
SOUTH
QUÉBEC
Battle Harbour
Cape St. Charles
Belle Isle
Chateau Bay
Wiseman Hd.
Red Bay
Pinware Bay
STRAIT OF BELLE ISLE
Quirpon I.
Degrat I.
White Islands
Pistolet Bay
St. Lunaire
St. Paul
Blanc Sablon
Forteau Bay
Eddies Cove
St. Anthony
Flowers Cove
Hare Bay
GULF OF
ST. LAWRENCE
NEWFOUNDLAND
ATLANTIC
OCEAN
1:1,013,760

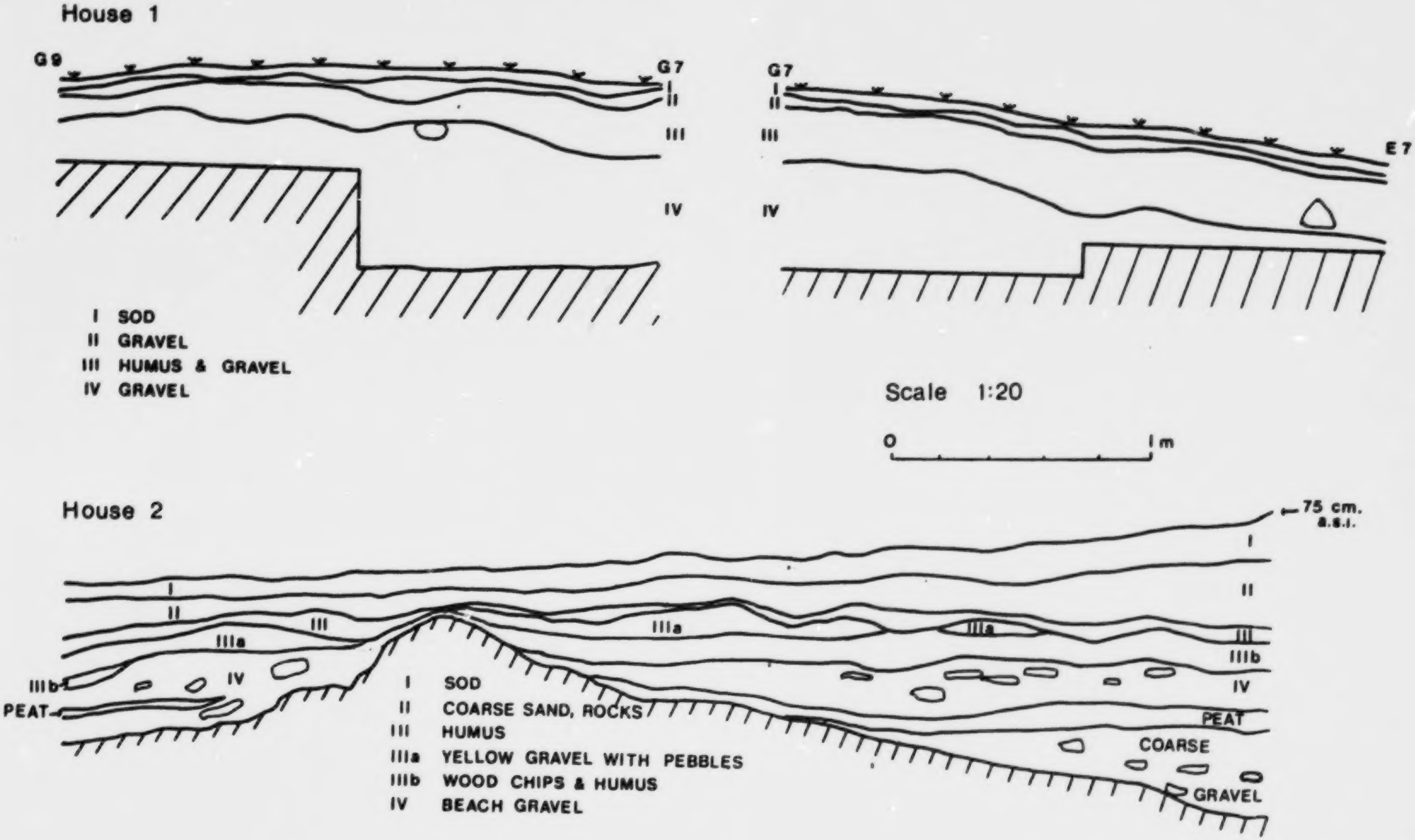
THE INUIT IN THE STRAIT OF BELLE ISLE :
RESEARCH AREA

Area Surveyed in 1983 ....

Area Surveyed in 1984 - - - - -

Figure 1

Figure 2


House 1
G9
G7
G7
E7
I
II
III
IV
I SOD
II GRAVEL
III HUMUS & GRAVEL
IV GRAVEL
Scale 1:20
0
1m
House 2
75 cm. a.s.l.
I
II
III
IIIa
IIIb
IV
PEAT
COARSE
GRAVEL
I SOD
II COARSE SAND, ROCKS
III HUMUS
IIIa YELLOW GRAVEL WITH PEBBLES
IIIb WOOD CHIPS & HUMUS
IV BEACH GRAVEL

DEGRAT ISLAND-1

STRATIGRAPHY OF HOUSES 1 AND 2

Figure 3

Degrat Island
House 1 and 2

Figure 4
Degrat Island
House 2

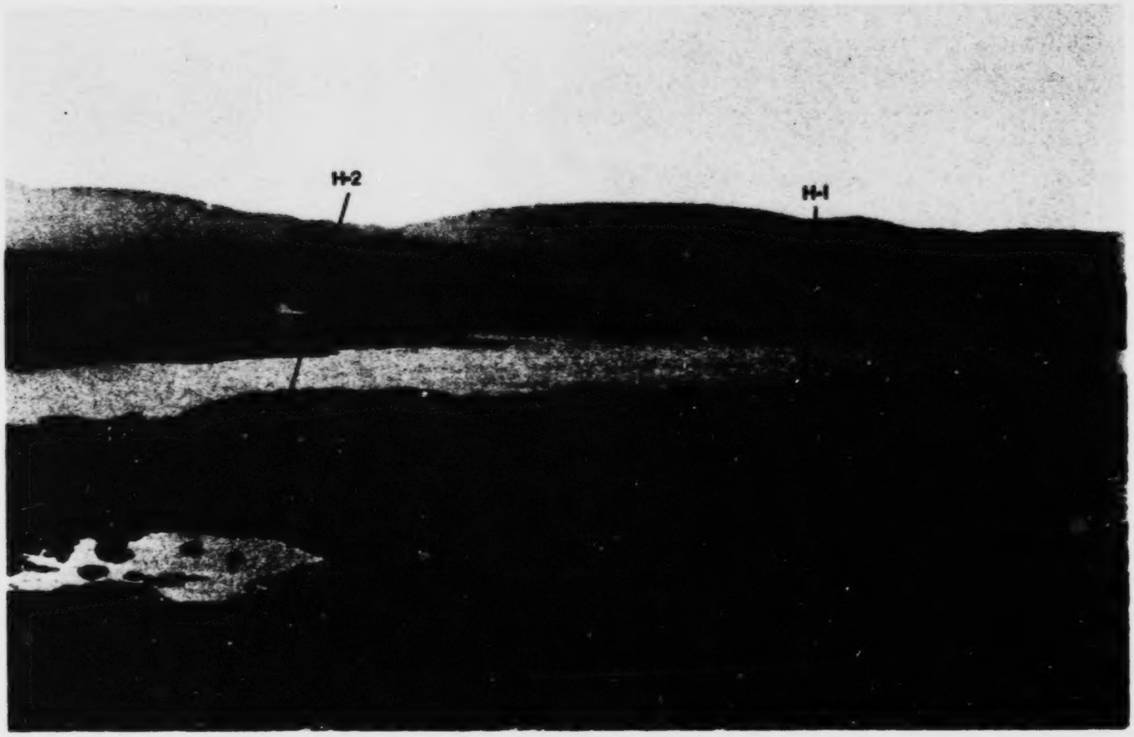
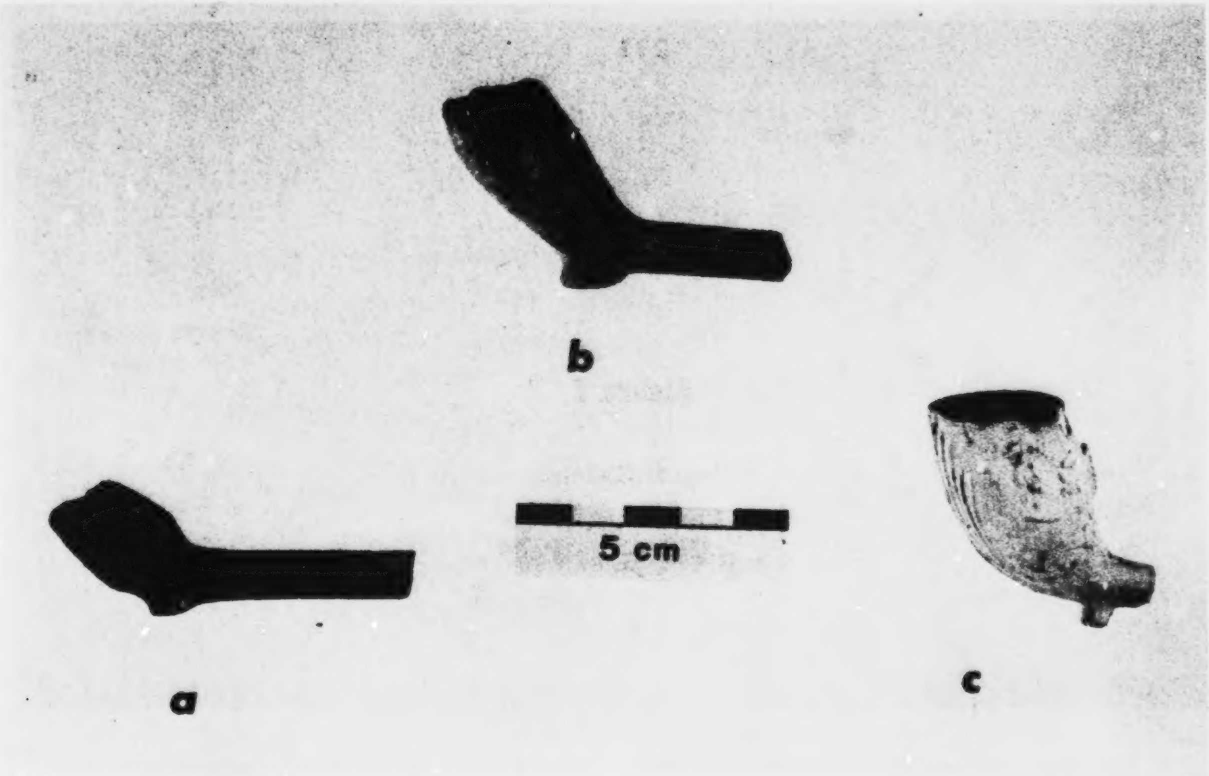

H-2
H-1

Figure 5

Degrat Island
Pipe Bowls

Figure 6

Degrat Island
a-Eyeless fishhook
b-Strainer for a barrel
c-d-nails


b
5 cm
a
c

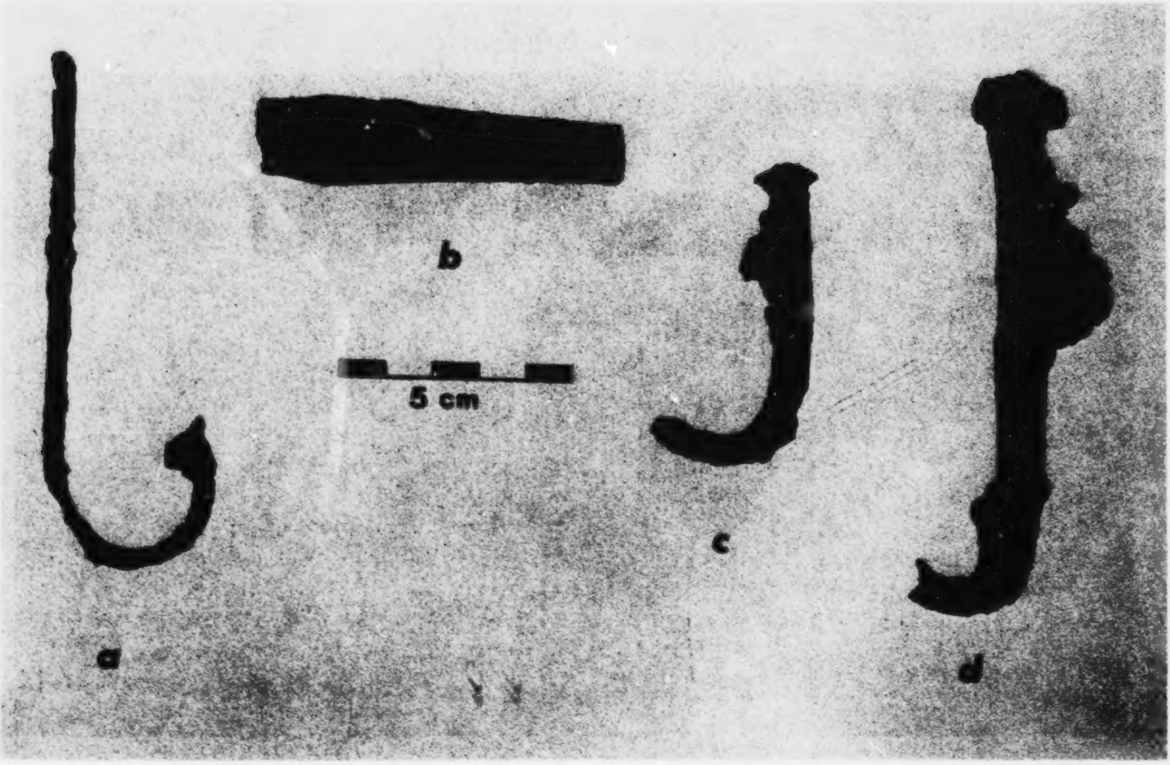
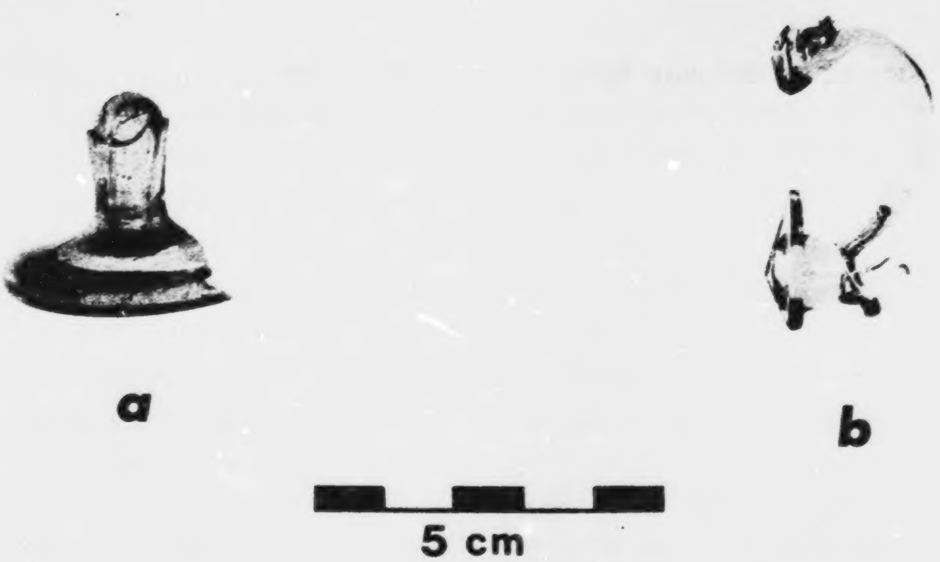

b
5 cm
a
c
d

Figure 7

Degrat Island
a-Stem for a glass
b-Green glass handle

Figure 8

Hedderson Site
Houses 1, 2 and 5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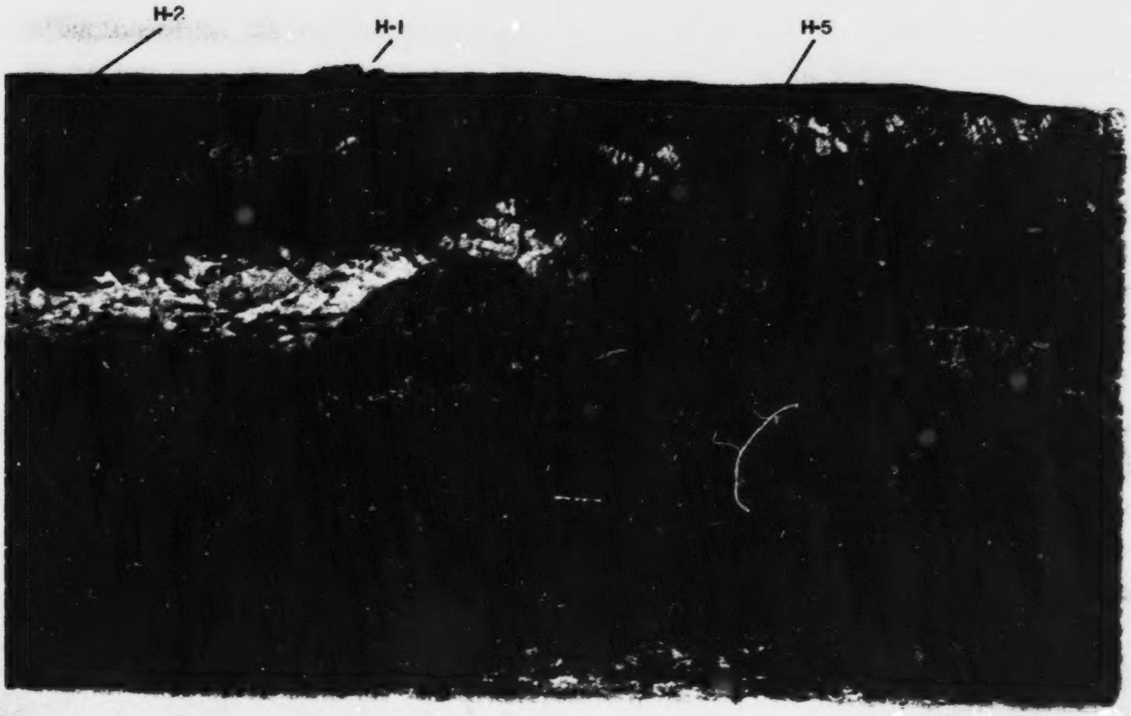
b
5 cm


H-2
H-1
H-5

REPORT ON THE MAIN BROOK TO ROUTE 430 SURVEY

by

M.A.P. Renouf

Archaeology Unit

Memorial University of Newfoundland

At the request of the Planning Division of the Department of Transportation, Government of Newfoundland and Labrador, a stage 1 Historic Resources Overview Assessment was done of the approximately 27 km road proposed to connect the settlement of Main Brook in Hare Bay to Route 430, which is the main road to St. Anthony (Renouf 1984). The objectives of the evaluation were to judge the potential of the route for archaeological sites, to survey the route for sites, and to assess the impact that the construction of the road might have on any sites found within the immediate vicinity. A ground survey was undertaken from 8-18 September 1984 by David Simpson as field director and Pat Wells as field assistant. A follow-up overflight of the Seal Bay area was done with David Simpson on 26-28 November 1984.

The survey design was based on manpower and time constraints along with the prediction of areas of high and low potential for archaeological sites. Given our knowledge of the primarily coastal orientation of Newfoundland's prehistoric settlement as well as the rate of post-glacial isostatic uplift of the Northern Peninsula (Grant 1972) areas of high potential for sites were considered to be those coastal areas below the 15.24 m (50 ft) contour as well as those locations where the proposed route crossed a river or stream. These areas were tested intensively with pits dug, surface features sought, and areas of erosion examined. The areas of high potential can be located on Figure 1, although it should be noted that the proposed route has been altered slightly since the figure was drawn such that it runs somewhat farther from the coast from Seal Bay to Western Brook. Areas of low potential for sites, that is, those areas away from the coast and above the 15.24 m contour, were examined less intensively where possible. No sites were found on the survey.

As a qualification of the survey design I would like to mention that our own work at Port au Choix in 1984 (Renouf, this volume) demonstrated to us not that there are necessarily no sites away from the coast, but that they are exceedingly difficult to find. This is a result of a number of factors, the first of which is that since most sites on the island are indeed coastal, then it follows that extant non-coastal sites are fewer in number and consequently more difficult to locate. Secondly, it is likely that interior sites are more ephemeral and thus smaller and less conspicuous on the landscape. Thirdly, since most interior sites in Newfoundland are less subject to erosion than coastal locations, non-coastal sites may often be concealed under a layer of very thick peat which not only obscures surface features relating to sites but makes test pitting difficult and time consuming. Finally, interior areas which are wooded are notoriously difficult to penetrate, and once this is accomplished may allow only very restricted visibility. These caveats explain in part why non-coastal sites are so few in Newfoundland and contributes to the possibly biased interpretation of Newfoundland's prehistory as so predominantly coastal. For future problem orientated research, especially settlement studies, the difficulties of locating interior sites must be overcome. However, they cannot at present be resolved for a small scale survey done in advance of a construction project and thus the areas where sites are most likely to be located in this case must be the focus of activity.

REFERENCES CITED

Grant, D.R.
1972 Postglacial Emergence of Northern Newfoundland. Geological Survey of Canada, paper 72-1, Part B: 101-102.

Renouf, M.A.P.
1984 Stage 1 Historic Resources Overview Assessment of the Proposed Main Brook to St. Anthony Road (Route 430). Report prepared for the Planning Division, Department of Transportation, Government of Newfoundland and Labrador.

Renouf, M.A.P.
Report of the 1984 Archaeological Survey of the Port au Choix and Point Riche Peninsulas, Northern Newfoundland. Prepared for the Archaeological Division, Parks Canada.

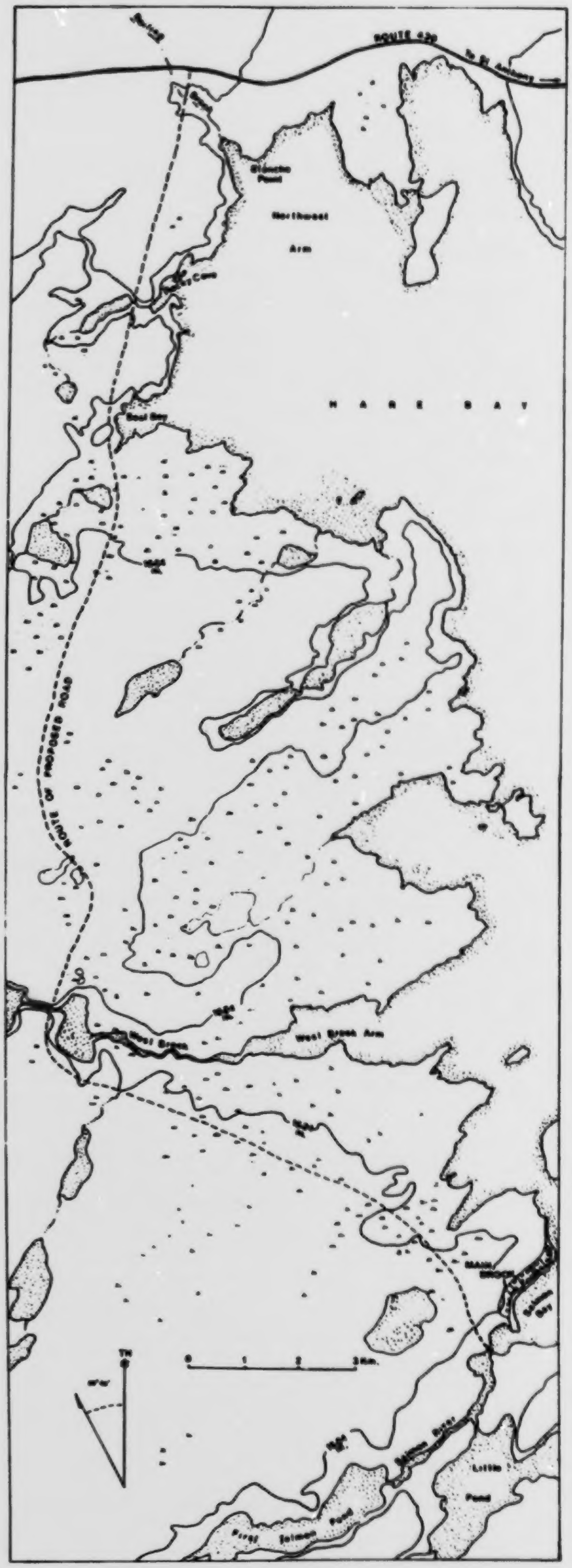

ROUTE 430
to St. Anthony
Northwest
Arm
H A R E   B A Y
ROUTE OF PROPOSED ROAD
West Brook
West Brook Arm
MAIN BROOK
TN
0
1
2
3km.
Salmon River
Little
Pond
First Salmon Pond

Figure 1

Main Brook to Route 430 Survey area

REPORT OF THE ARCHAEOLOGICAL INVESTIGATIONS AT THE PORT AU CHOIX AND POINT RICHE PENINSULAS

by

M.A.P. Renouf

Archaeology Unit

Memorial University of Newfoundland

INTRODUCTION

On July 4, 1984, the greater part of the Port au Choix and Point Riche Peninsulas (Figure 1) was signed over to Parks Canada at an official ceremony which was held in Port au Choix and attended by representatives of the provincial and federal governments as well as the local council. Already underway was an archaeological survey of the area funded by Parks Canada and designed to locate and identify the historic resources within the park boundaries (cf. Figure 3) and assess their potential for archaeological research and park development. A crew of eight, consisting of graduate and undergraduate students from Memorial University of Newfoundland, under the direction of the author, carried out this work from 13 June to 18 August, 1984.

The summer's research in this archaeologically rich area had three main aims: 1) to assess the large Dorset Eskimo site of Phillip's Garden for potential for future excavations. 2) to survey the area within the park boundaries for historic and prehistoric archaeological sites thus providing the basis for a park development plan, and 3) to look for caves within the park which may have been suitable for Dorset burials.

HISTORY OF PREVIOUS ARCHAEOLOGICAL RESEARCH IN THE AREA

Near the present town of Port au Choix human bones along with bone and ivory artifacts were found in 1904 by James Billard, a local resident (cf. Howley 1915:328), and Tuck (1976:4) suggests that this material is very likely Dorset. W.J. Wintemberg also mentions these findings in his 1939 report of his and D. Jenness' archaeological reconnaissance trip along the east and west coasts of Newfoundland. In addition Wintemberg reported that they found many artifacts at "What seemed to be an extensive site located on a flat area about five acres in extent, known locally as Phillips' Garden" (Wintemberg 1939:85). They also found many chert and quartz flakes at a location not far to the east of Phillip's Garden which is today a grassy field north and east of Mr. Harold Northcott's house.

In 1949 and 1959 and 1961 Elmer Harp Jr. investigated the Port au Choix area, describing a number of Dorset Eskimo sites as well as human and artifactual material belonging to what was than known as the Boreal Archaic culture (Harp 1951, 1963, 1964; Harp and Hughes 1968). Most of Harp's work in Port au Choix was directed at excavating large parts of Phillip's Garden, the object of which was to connect the Eskimo material in Newfoundland as represented at this site with Dorset Eskimo elsewhere in the Canadian north (Harp 1964, 1976).

In the fall of 1967 James Tuck was called to Port au Choix when the excavation of a foundation revealed skeletons and artifacts of a sort which had been a familiar sight to local residents for many years. Tuck returned the following summer and extensive and methodical testing revealed two other locations of Maritime Archaic Indian burials, one of which was particularly large with 55 burials containing 89 individuals (Tuck 1970, 1971, 1976). These excavations yielded numerous and elegant grave goods and the work stimulated interest in both the public and the archaeological communities. A portion of these finds, on loan from the Newfoundland Museum, comprises the basis for the display at the Parks Canada Interpretation Centre at the town of Port au Choix.

Further work was done on the excavated material by Brenda Kennedy who used the osteological data to suggest a pattern of exogamous marriage and virilocal or avunculocal post marriage residence in operation amongst the Maritime Archaic inhabitants of the area (Kennedy 1981).

In the summer of 1981 William Fitzhugh visited Port au Choix for a short period and identified a small Palaeo-Eskimo site on a terrace west of Phillip's Garden as well as an early French settlement at Barbace Cove on the Port au Choix Peninsula (Fitzhugh 1982).

INVESTIGATIONS AT PHILLIPS GARDEN

Phillip's Garden is a large and well known site which has been ascribed to Middle Dorset (Harp, 1964; Linnamae, 1975). The site extends over more than 20,000 m^2. Harp observed 36 house depressions spread over two of the three main terraces which run from 7.12 to 11.00 m above the high water mark. He excavated twenty of these and recovered a large number of stone and bone artifacts as well as an enormous amount of faunal material. In the field Harp identified the bones from House 4 and concluded that approximately 98% were bones of harp seal of various ages establishing that the site was occupied at least during the early spring. He also described what he considered to be two main forms of house construction, one being more substantial than the other and interpreted these as winter and summer dwellings (Harp 1976); thus the site appeared to have been occupied throughout most if not all of the year. Radiocarbon dates from ten house features and based on charcoal provide a range of 100 to 640 A.D. (Harp 1976).

The first thing that we did at Phillips' Garden was map the surface features (Figure 2). The spring vegetation was in its first stages of growth thus enhancing rather than obscuring small differences in elevation and soil composition. The outlines of Harp's excavations and backdirt piles were quite clear and identifying and mapping these was an interesting exercise in the archaeology of previous archaeological work. The depressions which Harp noted but did not excavate were identified and located and an additional twelve depressions were observed and included in the map.

We excavated at Phillip's Garden one metre squares which were chosen randomly within sampling strata, part of a sampling strategy designed to give us an idea of the nature and complexity of the site and provide us with information which could be used as the basis for decisions regarding future work at the site. However, soon after excavation of some of the sample units commenced, it was apparent that the richness of the finds precluded working at a pace that would uncover even a small sample. Nevertheless we continued working in the arbitrarily assigned one metre squares since it allowed us to "peek" at features in many areas of the site and get an idea of its characteristics. As a result of the excavation of only 34 m^2 a number of observations could be made which can best be summarized as follows: 1) although Harp excavated a significant portion of the site a large area is left undisturbed, 2) the site consists of numerous and often overlapping features, 3) activity areas can be found external to the house features, 4) although we did not test any mound features since we assumed that all or most of them were Harp's backdirt piles, and we did not test for middens directly to the northeast of the house features where Harp suggests they are located, we did observe that the highest concentration of faunal material came from areas where there were no observable surface features, which suggests the possibility of midden material infilling and obscuring older structures, 5) although the dates and much of the artifactual material from the site correspond with Middle Dorset it is apparent from both Harp's collection and the material which we collected this summer that Phillip's Garden had an earlier Eskimo occupation. Figure 5 shows a range of end blades found at Phillip's Garden, which includes the triangular, concave based tip-fluted forms typical of Middle Dorset in Newfoundland, as well as bifacially worked plano-convex, side notched specimens considered characteristic of Groswater Eskimo. Thus the time span of the site's occupation can be extended back in time for perhaps another 300-800 years, 6) this earlier Eskimo material is found throughout the site, but a single Groswater component has been isolated at the eastern extreme of Phillip's Garden on the second terrace where side-notched points, whole and broken, are to be found in amongst non-structured hearth features (Figure 6). Radiocarbon dates associated with this component will be forthcoming.

Future directions at the site will be 1) to excavate a single "winter" and a single "summer" house feature in order to understand more about their construction, 2) to infer activity areas in the spatial arrangement of the material both outside and within these houses, 3) to reconstruct the seasonal pattern of the site's occupation through the careful excavation of the midden deposits aimed at, if possible, separating out the various components, and at recovery of a representative sample of the faunal remains, including the smallest as well as the larger bones, and 4) to focus on the earlier Paleo-Eskimo occupation of the site in order to define and understand better the Groswater

Eskimo occupation of this area.

SURVEY

Survey Design

At the same time that test squares were being excavated at Phillip's Garden the survey of the park progressed. Although the area of the park is relatively small at 833.24 hectares, the search for archaeological sites was made difficult by the almost complete lack of surface indications of sites. This was because much of the area is overlain by a thick layer of largely uneroded peat. In addition, tucamore, or stunted forest, occurs in many places, often forming a dense barrier to penetration. Yet we knew that we had to look in these overgrown areas since the Maritime Archaic cemetery had been covered with this growth before the historic fishing population cleared the area of trees.

The vegetation zones on the peninsula were broken down into 1) tucamore, 2) grassy areas, 3) heath, 4) heath and bog, and 5) areas without vegetation. In order to investigate all these areas and not just limit ourselves to the coast we divided the Point Riche and Port au Choix Peninsulas into 41 north-south transects 150 m wide crosscutting the various vegetation zones. Half of every fourth transect was walked with a crew spaced out 20 m apart digging test pits every 40 m (Figure 3). The town was not included in this particular sample since we could not dig in any systematic way in people's backyards. The transects covered areas outside the park boundaries since it was logical to treat the two peninsulas as a discrete study region. In reality it is unlikely that this area would have been so isolated. Rather, it is more likely that the peninsulas were used along with coastal and interior regions of the mainland northwest coast.

Superimposed on this systematic sample was a judgemental sample designed specifically to locate the historic and prehistoric sites at the coast rather than provide a representative sample of sites. Thus virtually all the perimeter of the peninsulas was surveyed with intensive test pitting.

A third part of the survey consisted of visiting those areas where caves were known or were likely to be found in order to locate any caves that might have been suitable for Dorset burials.

Survey Results

The results of the survey can best be summarized in Figure 4, and the pattern which emerges is the primarily coastal focus of occupation. This is to be expected, yet it is also expected that small non-coastal sites or activity areas should be present, and our sample indicated at least one such activity area high on the raised beaches (Figure 4, site #16). With the exception of Phillip's Garden (Figure 4, site #4) and the Point Riche site (Figure 4, site #10) all the Palaeo-Eskimo sites are quite small. No Maritime Archaic settlement sites were found, and the only indication we have of these occupations, aside from the cemetery site, is the Maritime Archaic-looking biface found at site 7A151 (Figure 4, site #16), a similar preform found at 7A53 (Figure 4, site #3), and a number of characteristically Maritime Archaic artifacts which local residents showed us, and which came from the area of the town. The bulldozer operator claimed that he had seen more Indian skeletons and artifacts that I ever would, and unfortunately he is right. Both the 4th millennium and the historic inhabitants of the area chose to live on the sheltered shores of the isthmus which connects the two peninsulas with each other as well as with the main northwest coast.

For those interested in understanding aspects of early European occupation of Newfoundland, the historic settlements in this and other areas on the island are of interest and importance. The French set up summer fishing stations in the Port au Choix region which was part of the French Shore of 1713 to 1904, and during the same period English fishermen settled in the area (Rowe 1980). As can be seen from Figure 4, sites #1,9,25,26, and 27, a number of 18th and 19th century French and English sites were identified, the most interesting of which is Barbace Cove (#27), a small sheltered cove which was used by the French during this period and possibly even earlier.

Two of the more interesting sites deserve mention beyond the list accompanying Figure 4. One is a multi-component Palaeo-Eskimo site near what is today the property of Mr. Harold Northcott. This is the area east of Phillip's Garden where Jenness and Wintemberg found a number of flakes, and which Harp called Sites 5 and 7: because of the original separation of what I prefer to consider a single site, the division is maintained (Figure 4, site # 23, 24). The site lies outside the park boundary and covers about 1/2 acre, much of which has been built on, thereby destroying much if not most of it. The locals know of this spot and a number of local residents told us how they dug up large numbers of arrowheads there when they were children. Both Dorset and Groswater material was found (Figure 7) and we were able to define six activity areas. What is particularly interesting about the site is that there appear to be at least three Groswater components and one Dorset component, each spatially separated to a certain extent. Thus this site is potentially important for understanding the development of the Groswater Eskimo occupations of Newfoundland.

The second site of particular interest is the Point Riche site which is located well within the park boundary a few hundred metres to the south of the Point Riche lighthouse. This is a Middle Dorset site with at least 12 possible house depressions reminiscent of Phillips' Garden. Although we could not estimate the size of the site with any degree of certainty, it seems to be 1500 m^2 at a minimum. Test trenches in what I believe to be two house depressions yielded bone material as well as large quantities of flakes and quite a few triangular, tip fluted end blades. This site is of particular interest since it is undisturbed.

Eight caves of various sizes were found and located on the site location map, including the locally well known Crow Head Cave from which a local resident found human bones along with incised ivory and bone objects. No evidence of human activity was found at these caves, aside from a chert core found at Crow Head. However, the constant infilling of these limestone caves with fallen rubble means that any burials will be well hidden and will require a great deal of labour to discover.

DIRECTIONS FOR FUTURE RESEARCH

The Port au Choix and Point Riche Peninsulas provide an ideal opportunity for archaeological research on a number of fronts. The separable Groswater Eskimo components could provide useful data on the definition of this complex in Newfoundland and could provide insights into the development within the category itself. The excellent bone preservation at many of the sites in this area would allow a detailed reconstruction of the season(s) of occupation and subsistence base represented at them. This would do more than provide substantiation for the obvious and generalized conclusions regarding a maritime based ecomony but, in its detailed focus is also a means by which intra-site differences can be examined. The results of a detailed study of Dorset settlement and subsistence in this area, based on large sites such as Phillip's Garden and the Point Riche Site as well as smaller Dorset sites would also be pertinent to more general studies of coastal occupation.

ACKNOWLEDGMENTS

I would like to thank my field crew, David Simpson, Carol Krol, Pat Wells, Katherine Scott, Mary Biggin, Peter Pope, Michael Spencer, and Gerard Lowe who worked cheerfully and well. Rita Offrey, our cook, was indispensable to the success of the field season. She fed us, made us laugh, and kept our clothes clean and dry during a summer which was generally cold, wet and fly ridden.

The project itself was initiated by Charles Lindsay of the Archaeology Division of Parks Canada, Atlantic Division, and Jim Tuck of Memorial University of Newfoundland, and I would like to thank them for encouragement and advice. I would also like to thank Brian Gallant, Restoration Officer with Parks Canada's Halifax office who set up the large Phillip's Garden grid and drew the control map of site locations.

REFERENCES CITED

Harp, E.
1951 An Archaeological Reconnaissance in the Strait of Belle Isle Area. *American Antiquity* 16(3): 203-220.

1963 Evidence of Boreal Archaic Culture in Southern Labrador and Newfoundland. *National Museum of Canada Bulletin* 193.

1964 Cultural Affinities of the Newfoundland Dorset Eskimo. *National Museum of Canada Bulletin* 200.

Harp, E. and D.R. Hughes
1968 Five Prehistoric Burials from Port au Choix, Newfoundland. *Polar Notes* 8.

Howley, J.P.
1915 *The Beothuck or Red Indians*. Cambridge University Press.

Fitzhugh, W.W
1982 Smithsonian Surveys in Central and Southern Labrador in 1981, *Archaeology in Newfoundland and Labrador*, J. Sproull Thomson and C. Thomson eds., Annual Report 2: 32-55. Historic Resources Division, Government of Newfoundland and Labrador, St. John's.

Kennedy, B.
1981 Marriage Patterns in Archaic Population; A Study of Skeletal Remains from Port au Choix, Newfoundland. *National Museum of Man Mercury Series* 104.

Linnemae, U.
1975 A Comparative Study of Dorset in Newfoundland and the Arctic. *Technical Papers of the Newfoundland Museum* 1.

Rowe, F.W.
1980 *A History of Newfoundland and Labrador*. Toronto: Mcgraw-Hill Ryerson, Ltd., Toronto.

Tuck, J.A.
1970 An Archaic Indian Cemetery in Newfoundland. *Scientific American* 226(6): 112-121.

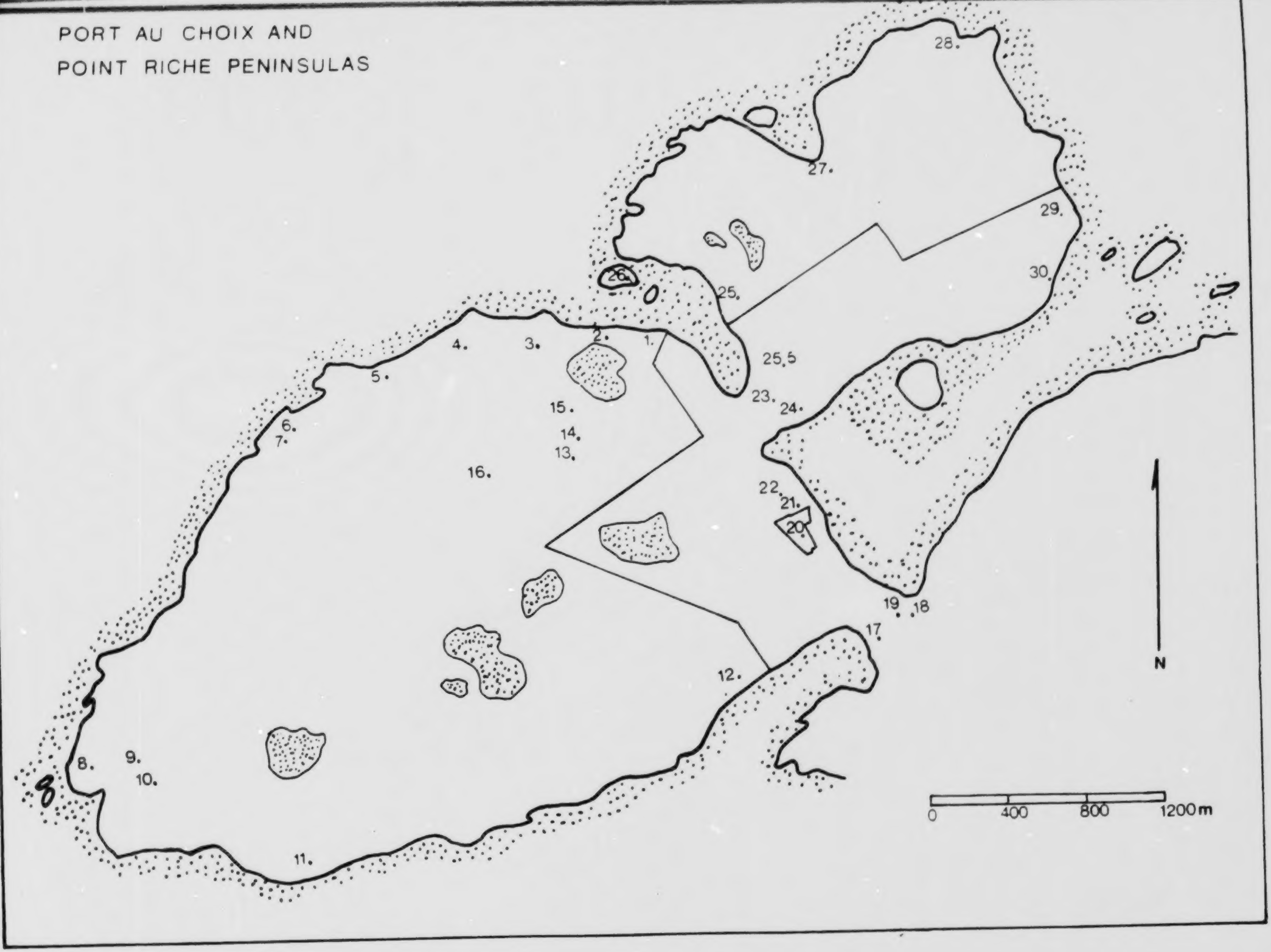
1971 An Archaic Cemetery at Port au Choix, Newfoundland. *American Antiquity* 36(3): 343-358.

1976 Ancient People of Port au Choix. *Newfoundland Social and Economic Studies* 17. Memorial University of Newfoundland, St. John's.

Wintemberg, W.J.
1939 Eskimo Sites of the Dorset Culture in Newfoundland. *American Antiquity* 5: 83-102.

Figure 1

Port au Choix and Point Riche Peninsulas



PORT AU CHOIX AND
POINT RICHE PENINSULAS

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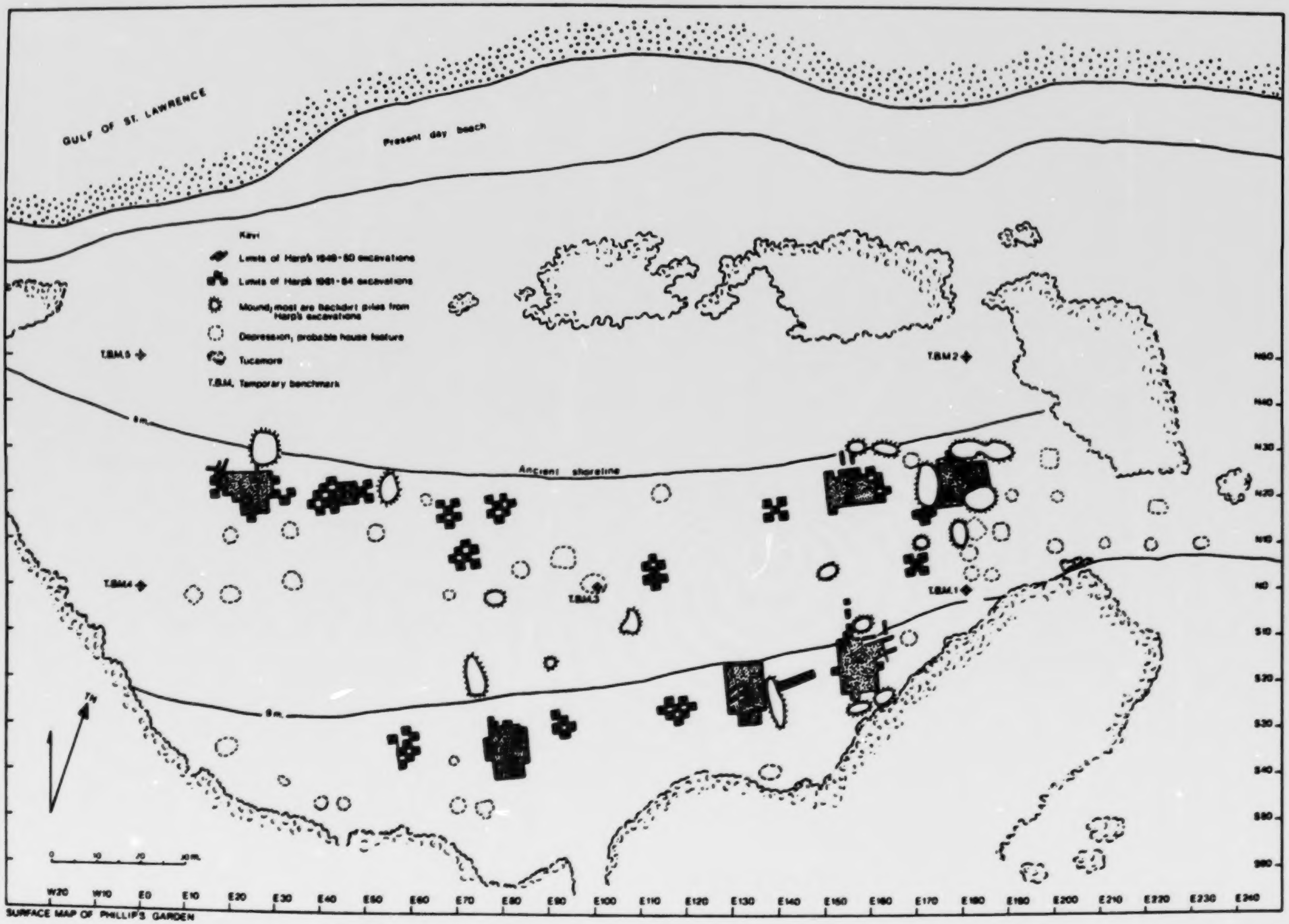
Figure 2

Surface map of Phillip's Garden

*Harp's elevations are used on this map; however, they appear from our own readings to be too low if taken from the high water mark.


GULF OF ST. LAWRENCE
Present day beach
Key
Limits of Harp's 1949-50 excavations
Limits of Harp's 1961-64 excavations
Mound; most are backdirt piles from Harp's excavations
Depression, probable house feature
Tucamore
T.B.M. Temporary benchmark
T.B.M.5
T.B.M.2
T.B.M.4
T.B.M.3
T.B.M.1
9m.
Ancient shoreline
8m.
TN
0 10 20 30m.
N50
N40
N30
N20
N10
N0
S10
S20
S30
S40
S50
S60
W20 W10 E0 E10 E20 E30 E40 E50 E60 E70 E80 E90 E100 E110 E120 E130 E140 E150 E160 E170 E180 E190 E200 E210 E220 E230 E240

SURFACE MAP OF PHILLIP'S GARDEN

Figure 3

Areas surveyed

Areas Surveyed on
on the
Port au Choix
and
Point Riche
Peninsulas

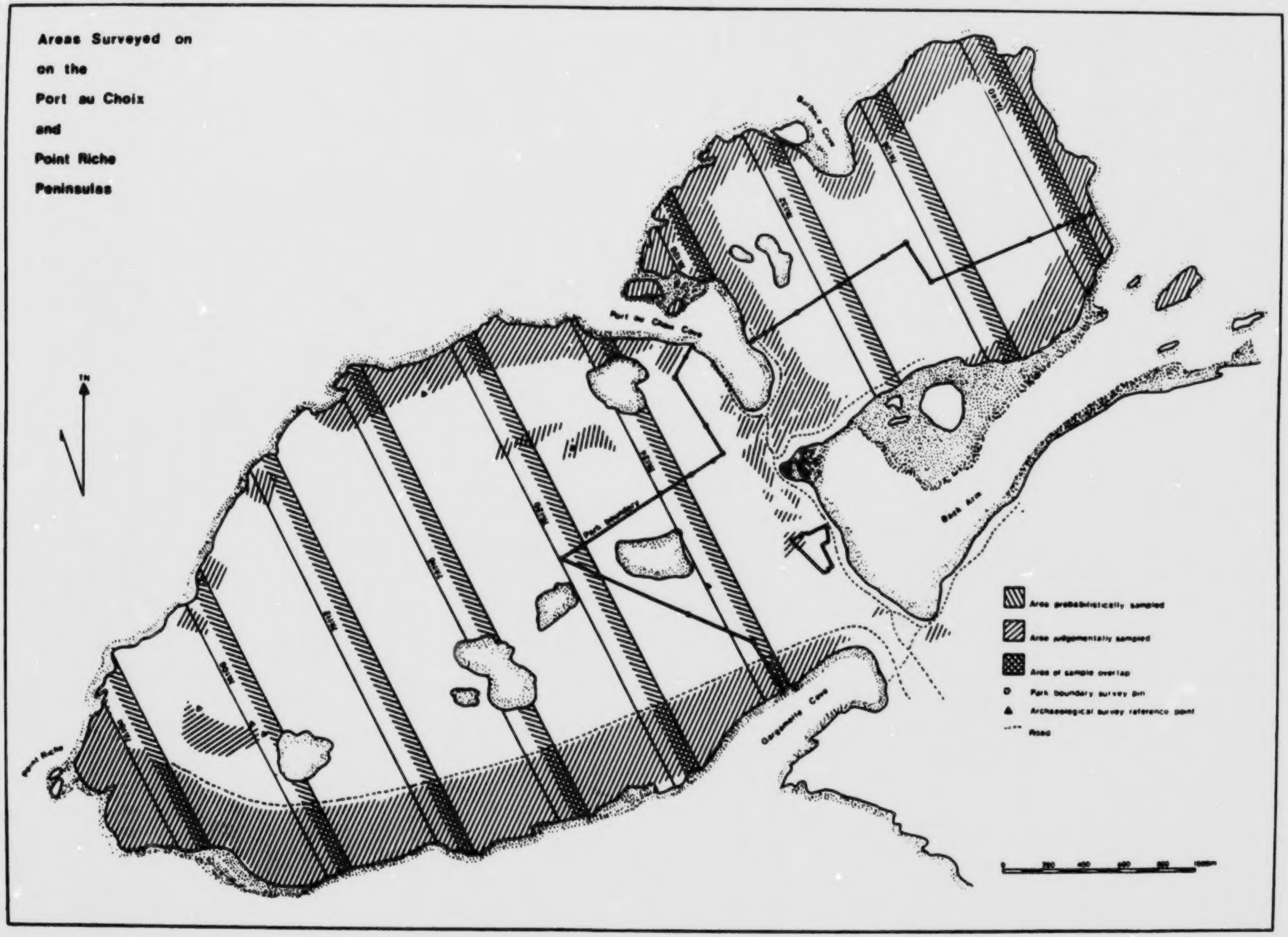

TN
Barbace Cove
Port au Choix Cove
Park boundary
Back Arm
Gargamelle Cove
Point Riche
▧ Area probabilistically sampled
▨ Area judgementally sampled
▩ Area of sample overlap
○ Park boundary survey pin
▲ Archaeological survey reference point
---- Road
0 200 400 600 800 1000m

Figure 4

Location of Sites and Isolated Finds on the Port au Choix and Point Riche Peninsulas

Sites and isolated find locations include both those found during the 1984 field season and those located by Wintemberg and Jenness, Harp, Tuck and Fitzhugh. Following the site name and cultural affiliation is its Parks Canada designation, beginning with 7A, and its Borden number.

1. Old Port au Choix West, English livyers and French fishermen (7A1; EeBi-13).
2. Trike Path, isolated find of Groswater material (7A52; EeBi-16).
3. Bluff east of Phillip's Garden, scattered finds of Palaeo-Eskimo, and possibly Maritime Archaic (7A53; EeBi-17).
4. Phillip's Garden, Dorset and Groswater Eskimo (7A200-399; EeBi-1).
5. Phillip's Garden West, Palaeo-Eskimo (7A55; EeBi-11).
6. Cave location, potentially suitable for burial (7A66).
7. Cave location, potentially suitable for burial (7A67).
8. Lighthouse site, Palaeo-Eskimo and English livyer (7A57; EeBi-19).
9. Isolated find of Palaeo-Eskimo material (7A58; EeBi-20).
10. Point Riche Site, Dorset (7A58; EeBi-20).
11. First Site, scattering of flakes, unknown cultural affiliation (7A145; EeBi-23).
12. Gargamelle Cove Cave, potentially suitable for burial (7A65).
13. Cave location, potentially suitable for burial (7A60).
14. Cave location, potentially suitable for burial (7A61).
15. Crow Head Cave, Dorset burial (7A62; EeBi-21).
16. Isolated find of core and biface, latter possibly Maritime Archaic (7A151; EeBi-24).
17. Harp's Site 6, Dorset (EeBi-6).
18. Lab Site, isolated flakes, Paleo-Eskimo (EeBi-18).

19. Offrey Site, isolated find of flakes, unknown cultural affiliation EeBi-14

20. Port au Choix cemetery, Maritime Archaic (7A146; EeBi-3).

21. Isolated finds of human skeletal material reported from site of new house and also Jeannie's Beauty Salon, Maritime Archaic.

22. Isolated find of core at Catholic Church, Palaeo-Eskimo (EeBi-28).

23. Northcott Site, formerly Harp's Site 7, Dorset and Groswater (7A148; EeBi-7).

24. Rumbolt Site, formerly Harp's Site 5, Dorset and Groswater (7A148; EeBi-5).

25. Old Port au Choix East, English livyers and French fishermen (7A129; EeBi-22).

26. Laignet Point, English livyers and French fishermen (7A126; EeBi-22).

27. Barbace Cove, English livyers and French fishermen (7A26; EeBi-12).

28. Cave location, potentially suitable for burial (7A63).

29. Cave location, potentially suitable for burial (7A64).

30. Isolated find of flakes of unknown cultural affiliation (EeBi-27).

Figure 5

Artifacts from Phillip's Garden,
showing range of end blades.

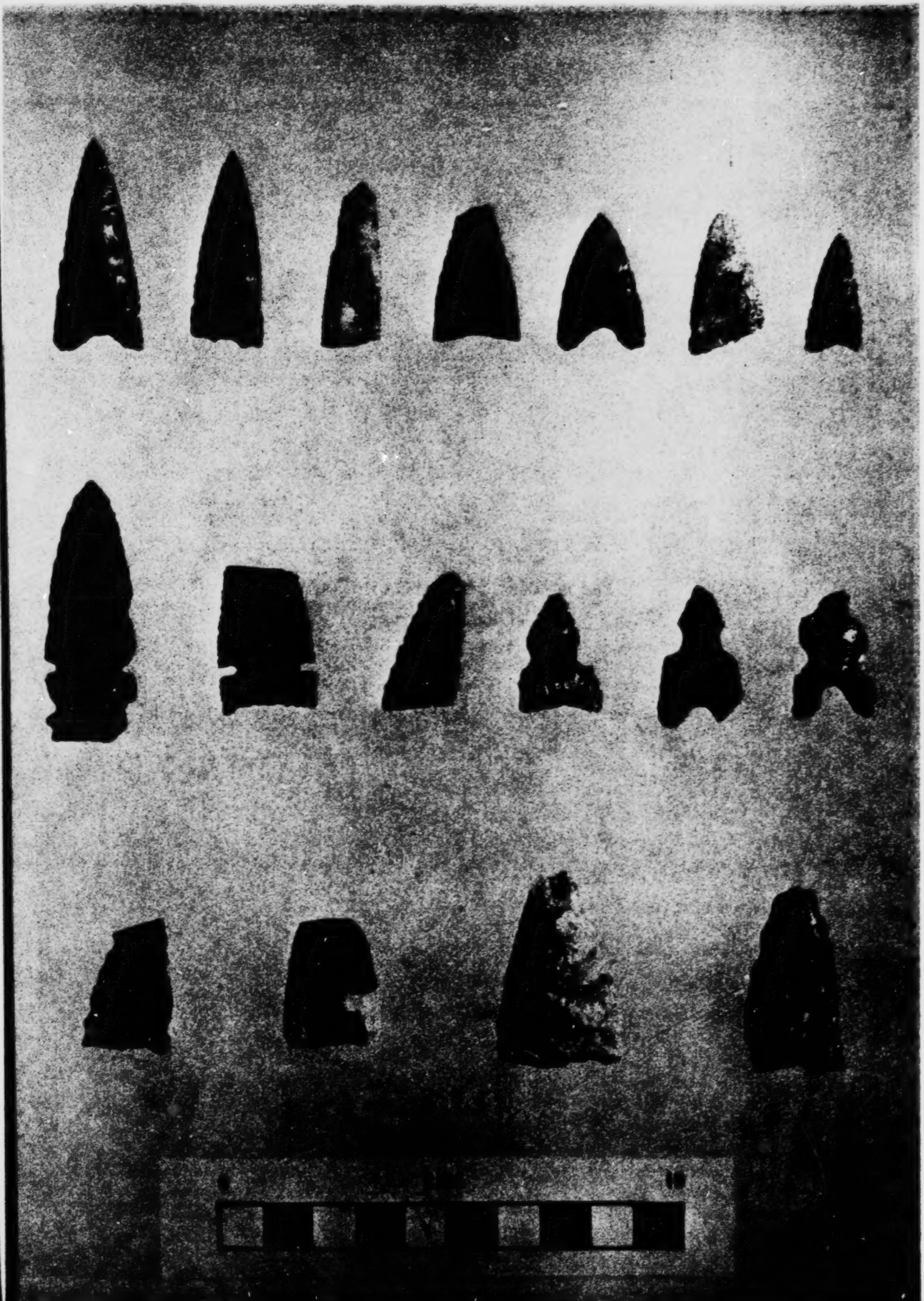

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Figure 6

End blades from Phillip's Garden,
eastern extreme.

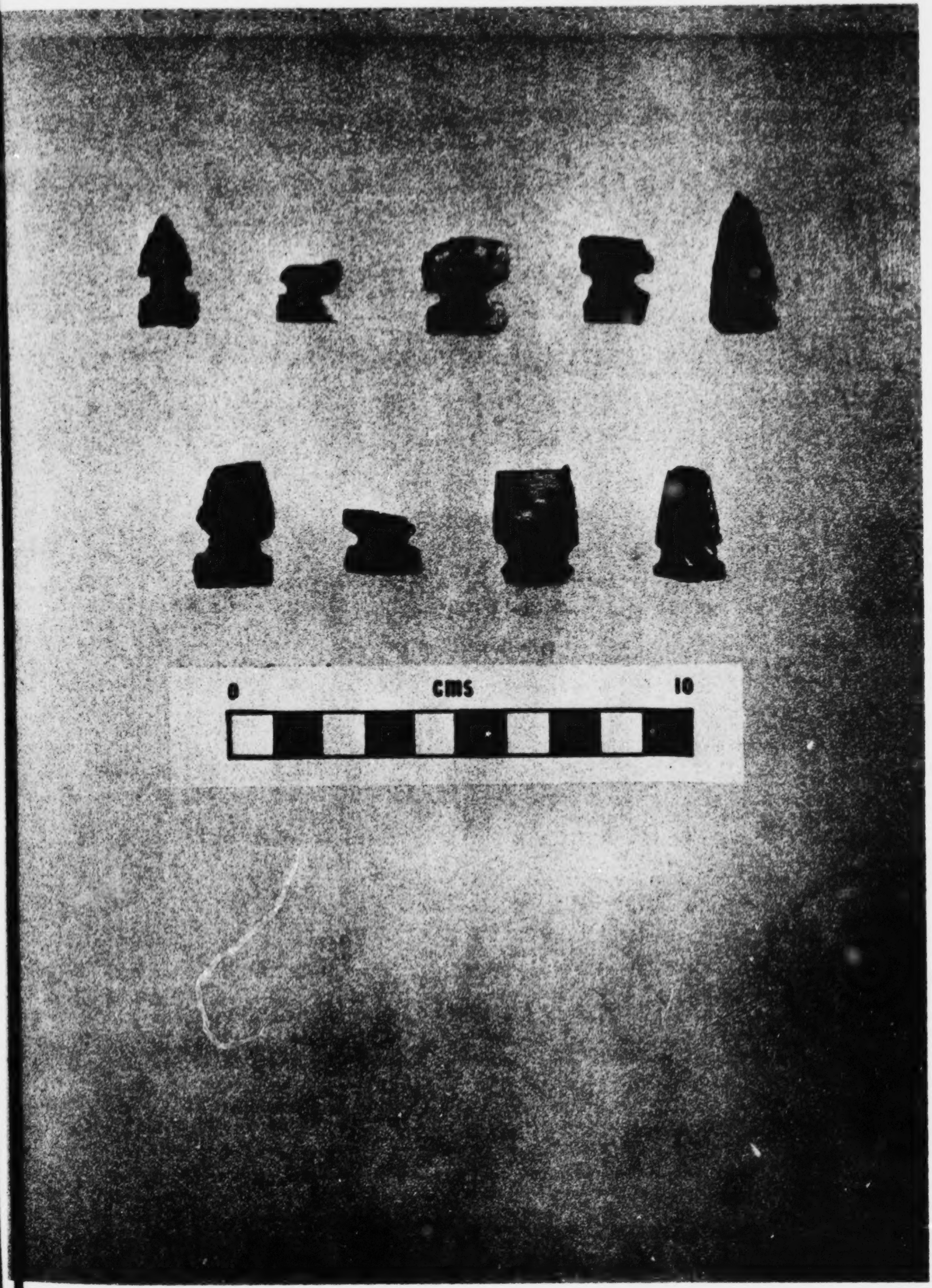
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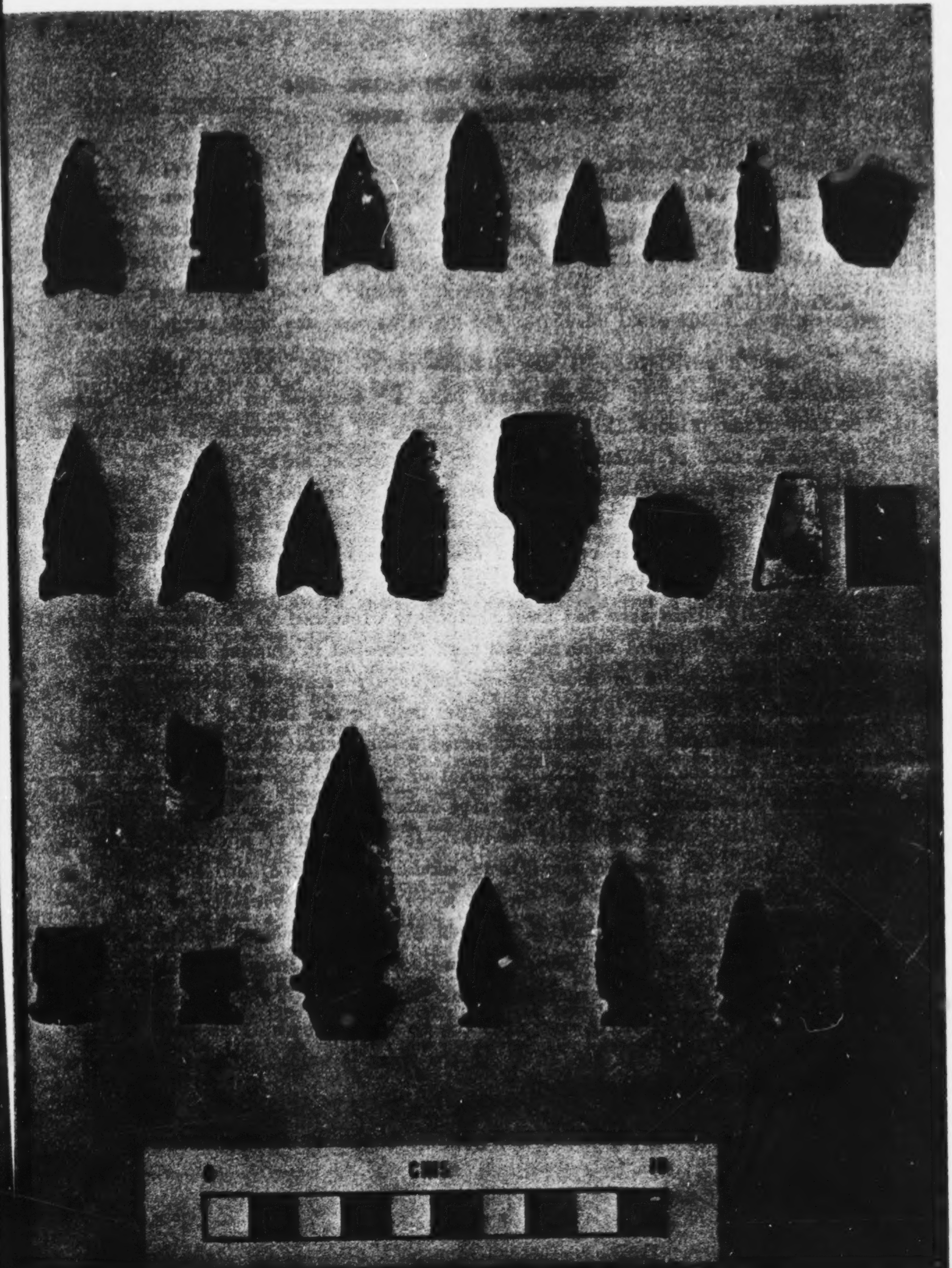
Figure 7

Artifacts from Harp's Site 5 (re-named the Northcott Site) and Site 7 (now the Rumbolt Site).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EXCAVATIONS AT BOYD'S COVE—1984
A PRELIMINARY REPORT

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INTRODUCTION

Boyd's cove (DiAp-3) was discovered in 1981 (Pastore 1982a) in the course of a survey of eastern Notre Dame Bay designed to locate and assess Beothuk sites (Figure 1). Extensive testing in 1982 revealed 11 depressions in Area B, each of which are ringed by low earthen walls (Figure 2). These features have been interpreted as the remains of Beothuk pit houses. Most of the interior of House 1 was excavated in 1982 as well as 17 m^2 outside of the structure. Considerable testing of Area A revealed evidence of Recent Indian occupations possibly persisting through the past two millennia. Unfortunately, this area had been thoroughly disturbed by European gardening and to date no cultural material has been recovered in context (Pastore 1983). In 1983, the interior of House 11 was completely excavated, although 13 m^2 on the surfaces of the walls were taken down only to the level of the wall fill. In that same season, the interior of House 3 was excavated to the living floor and to the surface of the walls. A total of 47 m^2 to the east of these structures was also excavated. This exterior excavation revealed only one feature, which was interpreted as hearth debris. It consisted of a concentration of fire-cracked rocks lacking significant amounts of charcoal and evidence of *in situ* burning. The paucity of historic material in the vicinity of this feature suggests that this portion of Area B was little used by the historic Beothuk (Pastore 1984). In 1984, the remainder of the interior of House 1 was excavated and the walls were trenched at four points. The unexcavated portions of the House 11 walls were also dug to sterile subsoil as was the interior of House 3 and all but 12 m^2 of the House 3 walls. (These units were covered in plastic and re-sodded).

CULTURAL CHRONOLOGY

A portion of the walls of Houses 3 and 11 proved to be resting on a largely-undisturbed Beaches complex occupation. This complex, defined solely on the basis of its lithics, is characterized by triangular bifaces, thumbnail scrapers, and projectile points with side and corner notches (Tuck 1982: 211). A Beaches complex point (Figure 3a) was found in association with a hearth, charcoal from which was been dated at 960 +/- 50 BP (Beta 10235). This represents the first dated Beaches complex occupation on the island. Beaches projectile points had long been thought to be prehistoric Beothuk, although recently researchers have suggested that the Little Passage complex would more likely qualify as prehistoric Beothuk (Tuck 1982: 211). The Little Passage complex is defined by its triangular bifaces, thumbnail scrapers, and tiny, corner-notched and stemmed projectile points, frequently made from fine-grained, grey-green cherts. The evidence from Boyd's Cove now clearly demonstrates that the Little Passage complex is prehistoric Beothuk. The 1983 field season produced 14 stone projectile points and 4 triangular bifaces either with or above historic material. These artifacts show distinct stylistic resemblances to Little Passage triangular bifaces and projectile points. In addition, a recent attribute analysis of Little Passage/Beothuk projectile points from 18 sites on the island indicates that there is a clear progression from Little Passage to Beothuk, over time, in which projectile points "decrease in size, their notches become shallower and broader, and move from corner to base, and exhibit less surface retouch" (Schwarz n.d.: 66). At Inspector Island (DiAq-1), a site also discovered in the course of the 1981 survey, a Little Passage occupation has been dated at 610 +/- 60 BP (Beta 6730) to 690 +/- 40 BP (Beta 3938), placing this occupation between that of the Beaches complex and the historic Beothuk. It may be premature to conclude that this sequence of Beaches complex - Little Passage complex - Beothuk will remain unchanged, but the model developed at Boyd's Cove and Inspector Island appears to be the best outline now extant of the last millennium of Recent Indian chronology.

STRUCTURES

Descriptions of Houses 1 and 11 appear in previous reports (Pastore 1983, 1984). The 1984 field season revealed more post moulds in both houses including surprisingly-well preserved wood from a post in House 1. The near-complete excavation of House 3 has revealed a structure very similar to that of House 1. The crests of the House 3 walls form an irregular six-sided configuration measuring ca. 7 m at its maximum and averaging 20-30 cm high. The interior was excavated to an average depth of ca. 10-12 cm, and at its greatest, the interior measured ca. 5.2 m from the base of one wall to the opposite base. Four, or possibly five, oblong depressions ca. 2-3 cm deep and averaging 1.5 by 0.8 m were found around the outer margins of the interior at the bases of the walls. It was not clear if these were excavated into the house floor. A central hearth was indicated by a shallow (5 cm) pit, burned, red subsoil, and an overlying lens of bone mash. A large battered rock on the margin of the hearth was interpreted as an anvil. Two post moulds on the periphery of the hearth may be evidence of a cooking rack. Four post moulds in the walls showed a slight (10^0) angle inward, while the remaining post moulds in the walls were vertical. The evidence, including one well-preserved portion of a post, indicated posts of ca. 10-15 cm in diameter. The entrance was indicated by a 1.3 m break in the north wall and what has been interpreted as two drip lines on either side of the entrance. This entrance also contained a bone and shell midden and a small hearth, both obviously created after the house had been abandoned by its occupants. Other indications of post-abandonment activity were evidenced by a black, greasy deposit, thought to be mammal fat, on the eastern wall, and a small hearth in the eastern portion of the house interior, above the living floor.

ARTIFACTS

Since so much of the 1984 effort was concentrated upon excavating the walls and the Beaches complex occupation underlying Houses 3 and 11, relatively few artifacts ascribed to the historic Beothuks were recovered. Among the more interesting of these, however, were Normandy stoneware from House 1, previously recovered only from Houses 3 and 11, and a pipe stem decorated with a stamped fleur-de-lis inside a double diamond--a motif "most popular in the mid-seventeenth century" (Noel-Hume 1974: 305). More trade beads (Kidd IIa12 & IIa56) were found in House 1, as well as a brass buckle from House 3. All houses yielded more nails, modified nails, and projectile points made from nails. In general, the artifacts recovered during the 1984 field season continue to suggest an occupation during the period ca. A.D. 1650-1720 by a people in sporadic peaceful contact with either Europeans (likely French fisherman), or native groups (likely Montagnais) associated with the French. Both French (Roy 1923: 366) and English (Howley 1915: 26) sources hint at friendly intercourse between the Beothuks and the Montagnais, which may explain the origin of the trade beads and the small number of fish hooks, knife blades, and the few copper kettle fragments. The high frequency of nails (70% of the metal objects recovered to date) indicate that the Boyd`s Cove Beothuks acquired most of their metal by pilfering, most likely from seasonally-abandoned fishing premises. Preliminary faunal analysis suggested the possibility of a fur trade at Boyd's Cove, but this has not been borne out by the final study (Cumbaa 1984: 15). The trade axes, varieties of beads, and profusion of kettles, knives, and firearms characteristic of mainland sites where a significant fur trade has existed are either lacking or in very short supply at Boyd's Cove (see Appendix 1). If the Boyd's Cove inhabitants were involved in a fur trade, it must have been a relatively minor one.

With respect to artifacts made of indigenous material, the recovery in 1984 of a number of bone tools and ornaments has thrown new light on our knowledge of the bone technology of the Beothuks and their predecessors. Incised bone ornaments, formerly found only in graves, have been recovered from the interiors and walls of House 1 and 3. Where wall fills have contained shell, bone preservation has been remarkable. A perfect bone Little Passage projectile point, for example, was recovered from House 3 wall fill. In addition, the Beaches occupation under House 3 produced what appears to be a bone mattock, a lance tip, and a number of awls--the first bone artifacts associated with the Beaches complex.

FAUNAL ANALYSIS

In 1982, 2900 bones and teeth, and 12 kg of shell were recovered through trowelling as well as the flotation of a 0.5 m^2 midden sample to sterile subsoil, a depth of ca.10 cm. In 1983-84, in addition to recovery and conservation of all faunal remains resultant from hand-trowelling, we water-sieved (using 2 mm mesh) a 1.25 m^2 unit in the midden in the entrance to House 3, to sterile subsoil, an average depth of 14 cm. The 1983 material has been cleaned and dried, and the 1984 material is undergoing the same process. Stephen Cumbaa, of the Zooarchaeological Identification Centre, National Museums of Canada, has completed analysis of the 1982 sample, and has reached some interesting conclusions. The evidence suggests an occupation from at least April through to at least November, and indicates a generalized subsistence pattern that involved hunting and fishing for a wide range of marine and terrestrial species (Cumbaa 1984). Such a pattern might well result in the location of base camps at the bottom of bays, in protected "inner" reaches, and along the coast where access to the interior is readily available. This would contrast with settlement on outer islands, exposed headlands, and similar "outer" locations indicative of a more intensive maritime orientation. Indeed, Little Passage and Beothuk sites (aside from the late 18th-early 19th century interior Beothuk sites, which were clearly refuges from a white population which had displaced the Beothuks from the coast) do tend to be located in inner locations on the coast (Pastore 1982b). The Little Passage - Beothuck subsistence/settlement pattern appears to resemble that of the contemporaneous (and possibly related?) Point Revenge system of Hamilton Inlet, Labrador, which Fitzhugh has designated as "Modified-Interior"—characterized by a "generalized interior technology for utilizing summer coastal resources [with] a greater degree of adaptation to the coast..." (Fitzhugh 1972: 159).

The Boyd's Cove fauna contrast very strongly with that of the Wigwam Brook site (a late 18th-early 19th century interior Beothuk camp), where Stewart (1973) found a year-round dependency (90% of the meat) on caribou. The contrast with Boyd's Cove (see Appendix 2) underscores the dramatic dislocation undergone by the Beothuks during the perhaps 100 year period between their occupations at Boyd's Cove and at Wigwam Brook.

With respect to the question of a possible fur trade carried on by the

Boyd's Cove Beothuks, Cumbaa notes that "... furs were used extensively by the Beothuks themselves, and the presence of the bones of so many fur bearing animals at Boyd's Cove, some with skinning cuts, does not require or imply active participation in the European fur trade." Cumbaa also points out that beaver was a desirable food, and indeed, presumably all of the Boyd's Cove fur-bearers were edible (Cumbaa 1984: 15).

FUTURE INVESTIGATIONS

A major goal of future research at Boyd's Cove will be to explain the function of the features provisionally interpreted as Houses 4 and 8 (Figure 2). These appear to be oval structures, substantially larger than and different in shape to the remaining structures. It is hoped that excavation of the interior of House 4 and selective trenching of its walls will reveal its function, and by analogy, that of House 8. It is also planned to excavate the immediate environs of House 4 in an attempt to locate associated features and activity areas. Three hypotheses will be tested: 1) That House 4 is a dwelling. In this regard, the possibility that this structure is larger than other excavated houses because of socio-economic changes in Beothuk culture resulting from European contact will be explored. This has been suggested by Jordan's work at Eskimo Island, Hamilton Inlet, Labrador. Jordan suggested that the "establishment of communal houses is viewed as a direct result of...economic activities [including trade] as relatives and non-relatives coalesced around important hunter-traders in order to facilitate access to new items of European material culture and to associate themselves directly with these status individuals" (Jordan 1978: 175). 2. That House 4 is an example of an older, communal type of dwelling formerly found only in the interior. One of the earliest descriptions of Beothuk structures comes from John Guy in 1612 who reported small temporary dwellings on the coast as well as one "made in a square form with a small roofe..."(Howley 1915: 15-18). It is possible that larger dwellings were occupied during the winter, in the interior, but not known by early European observers. In this regard, Locke (n.d.: 32) excavated two "longhouse features" at Red Indian Lake in the interior, and recovered lithics stylistically similar to Beaches complex material. 3) That House 4 is a storehouse. There are a number of descriptions of storehouses in the historical record (Howley 1915: 69,75,85,192,248), one of which is described as 40' or 50' in length. This compares well with House 4 which measures ca. 12 m between opposing wall crests. If the attraction of European goods to be acquired on the coast resulted in a greater commitment to settlement on the coast, it is possible that such a storehouse would be one of the results.

ACKNOWLEDGMENTS

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REFERENCES CITED

Cumbaa, Stephen

1984 'Diverse Furres and Deeres Flesh'—Animal Use by a 17th Century Beothuk Population at Boyd's Cove, Notre Dame Bay, Newfoundland. Unpublished Report (March, 1984) Zooarchaeological Identification Centre, National Museum of Natural Sciences, National Museums of Canada, Ottawa.

Fitzhugh, William

1972 Environmental Archeology and Cultural Systems in Hamilton Inlet, Labrador. Smithsonian Contributions to Anthropology 16, Washington, D.C.

Howley, James, P.

1915 The Beothucks or Red Indians. Cambridge University Press. Reprinted 1974 by Coles Publishing Co., Toronto.

Jordan, Richard H.

1978 Archaeological Investigations of the Hamilton Inlet Labrador Eskimo: Social and Economic Responses to European Contact. Arctic Anthropology XV(2):175-185.

Locke, Don

n.d. Beothuck Artifacts. Robinson-Blackmore Printers, Grand Falls, Nfld.

Noel-Hume, Ivor

1974 A Guide to Artifacts of Colonial America. Knopf, New York.

Pastore, Ralph T.

1982a Preliminary Report of a Survey of eastern Notre Dame Bay. In: Archaeology in Newfoundland and Labrador 1981. Jane Sproull Thomson and Callum Thomson (eds.) Annual Report 2: 152-173, Historic Resources Division, Government of Newfoundland and Labrador.

1982b Locational Distribution of Aboriginal Sites on the Island of Newfoundland. Paper delivered to the annual meeting of the Canadian Archaeological Association, 1982, Hamilton.

1983 A preliminary Report on Investigations at Boyd's Cove-1, A Beothuk and Recent Indian Site in Notre Dame Bay, Nfld. In: Archaeology in Newfoundland and Labrador 1982. Jane Sproull Thomson and Callum Thomson (eds.) Annual Report 3: 133-160, Historic Resources Division, Government of Newfoundland and Labrador.

1984 Excavations at Boyd's Cove, Notre Dame Bay 1983. In: Archaeology in Newfoundland and Labrador 1983. Jane Sproull Thomson and Callum Thomson (eds.) Annual Report 4: 98-125, Historic Resources Division, Government of Newfoundland and Labrador.

Roy, P-G (ed.)
1923 Rapport de l'Archiviste de la province de Quebec pour 1922-1923. Imprimeur de sa Majesté le Roi, Quebec.

Schwarz, Frederick
n.d. The Little Passage Complex in Newfoundland: A Comparative Study of Assemblages. Department of Anthropology, Memorial University of Newfoundland, St. John's.

Stewart, Frances L.
1973 Faunal Analysis of the Wigwam Brook Site, Newfoundland. Appendix in: Raymond Leblanc, The Wigwam Brook Site and the Historic Beothuk Indian. Unpublished M.A. thesis, Department of Anthropology, Memorial University of Newfoundland, St. John's.

Tuck, James A.
1982 Prehistoric Archaeology in Atlantic Canada since 1975. Canadian Journal of Archaeology 6: 201-218.

APPENDIX 1

Catalogued European Objects from Beothuk Contexts

Sheet iron pieces	6
Rod iron pieces	10
Strip iron pieces	73
Unidentified iron pieces	181
Iron button fragment	1
Iron chisel? (formerly identified as an adze)	1
Trap base	1
Lead shot	1
Strip lead piece	1
Brass buckle	1
Probable hinge fragments	2
Brass or copper kettle fragments	2
Brass or copper fragments	2
Cast iron kettle fragments	11
Fish hooks	15
Knife blade fragments	20
Iron projectile points (made from nails)	13
Aboriginally modified nails	132
Nails	637
Beads (manufactured from pipe stems)	8
Pipe stem fragments	13
Ceramics (Normandy stoneware)	18
Glass fragments	21
Glass trade beads (Kidd IIa & IIa56)	481

APPENDIX 2

Extract from "Divers Furres and Deeres Flesh' - Animal Use by a 17th Century Beothuck Population at Boyd's Cove, Notre Dame Bay," by Stephen Cumbaa.

Composite Fauna, Known Beothuk Proveniences, Boyd's Cove

Taxon	No. Bones	% Total	MNI	% Total
MAMMALS				
beaver	22	1.1	3	4.8
black bear	2	.1	1	1.6
polar bear	13	.6	3	4.8
small bear	1	.05	-	-
large bear	6	.3	-	-
river otter	46	2.3	5	8.1
marten	15	.7	3	4.8
small carnivore	2	.1	-	-
harbour seal	14	.7	7	11.3
seal (small)	51	2.5	2	3.2
bearded seal	4	.2	1	1.6
seal (large)	1	.05	-	-
cf. white whale	1	.05	1	1.6
caribou	43	2.1	6	9.7
unidentified mammal	1,357	66.8	-	-
class subtotal	1,578	77.7	32	51.5
BIRDS				
common loon	2	.1	1	1.6
double-crested cormorant	4	.2	3	4.8
cormorant	7	.3	-	-
Canada Goose	44	2.2	5	8.1
greater scaup	1	.05	1	1.6
oldsquaw	2	.1	1	1.6
eider	2	.1	2	3.2
bald eagle	1	.05	1	1.6
greater blacked-backed or glaucous gull	1	.05	1	1.6
large sandpiper	1	.05	1	1.6
jaeger	2	.1	1	1.6
black guillemot	3	.1	2	3.2
murre	1	.05	1	1.6
unidentified birds	192	9.5	-	-
class subtotal:	263	13.0	20	32.1
FISH				
rainbow smelt	92	4.5	3	4.8
goosefish	1	.05	1	1.6

sea raven	6	.3	2	3.2
shorthorn sculpin	10	.5	3	4.8
sculpin	4	.2	-	-
winter flounder	1	.05	1	1.6
unidentified fish	31	1.5	-	-
class subtotal	145	7.1	10	16.0
OTHER				
class uncertain	44	2.2	-	-
Vertebrate Total	2,030	100.0	62	99.6
MOLLUSCS				
gastropod	4	-	3	-
soft-shelled clam	77	-	42	-
unidentified mollusc	432	-	-	-
Phylum subtotal	513		45	-

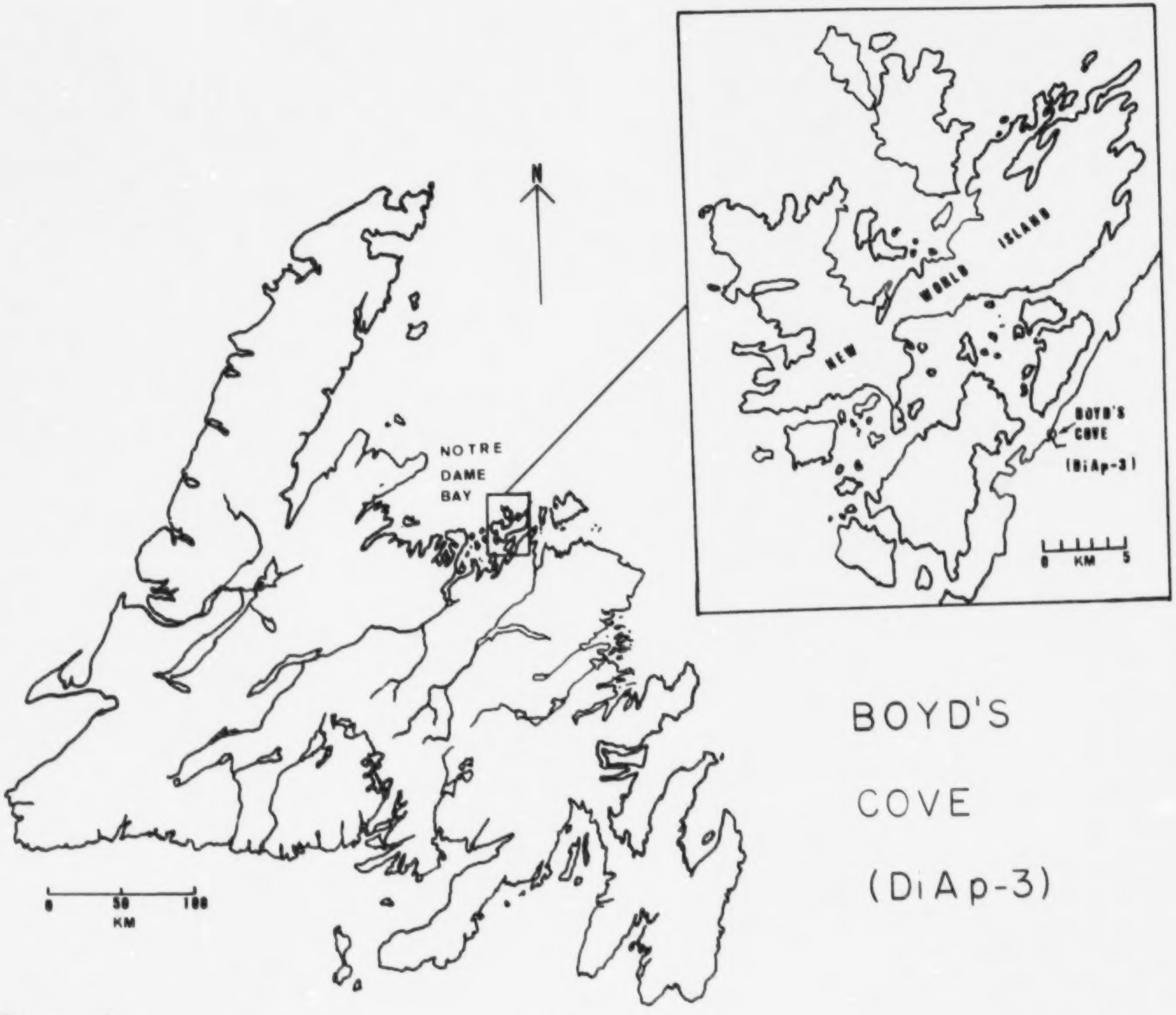
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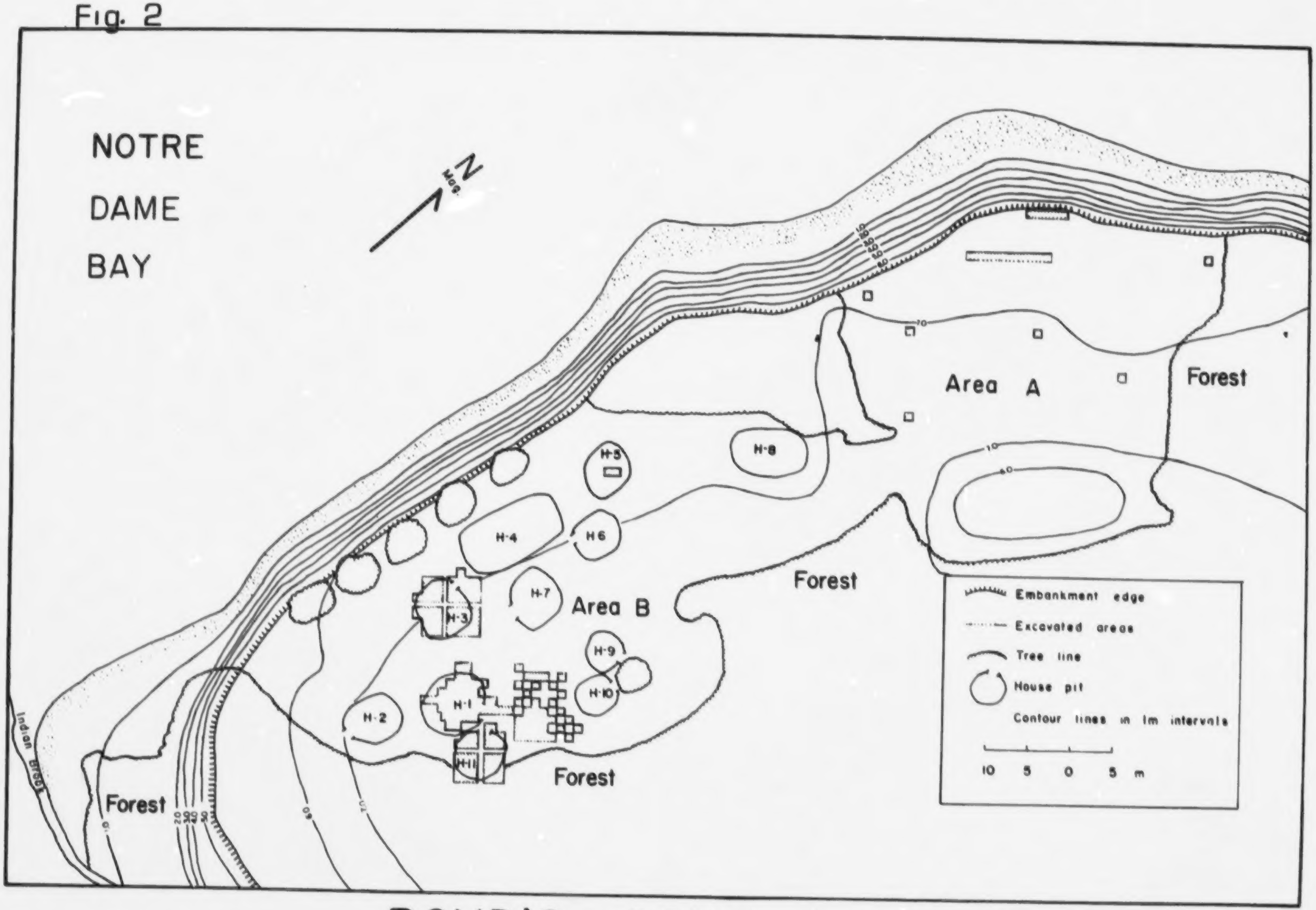
Fig. 1

Fig. 2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Indian Brook
Embankment edge
Excavated areas
Tree line
House pit
Contour lines in 1m intervals
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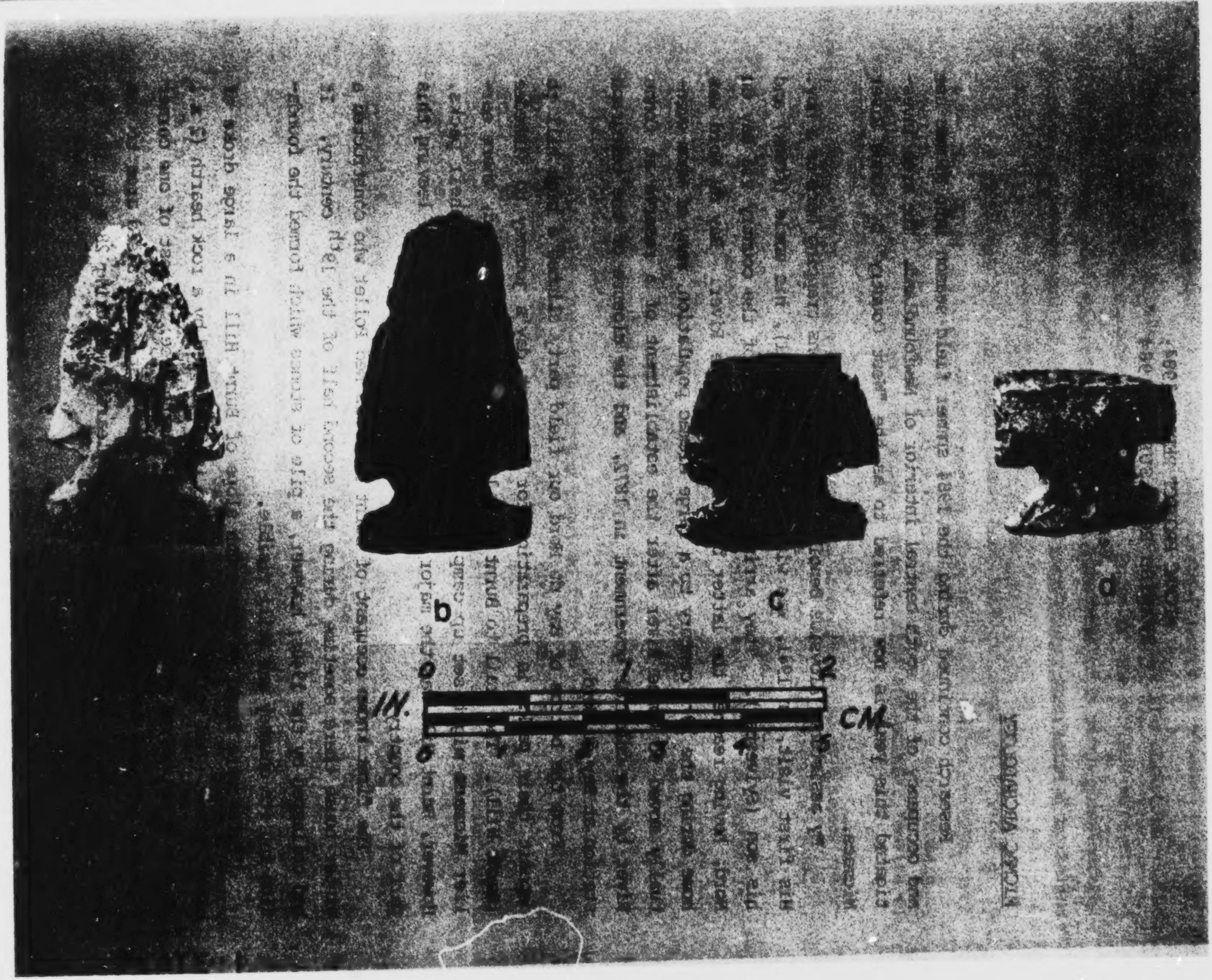
BOYD'S COVE (DiAp-3)

Prelimininary Map, 1984

Figure 3

Beaches Complex Projectile Points: (a) was found in association with a hearth, charcoal from which has been dated at 960 +/- 50 BP; (b) was found in a disturbed potato garden in Area A; (c) was recovered from a Beaches occupation underlying House 3; (d) came from the Area A potato garden.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MICMAC PROJECT REPORT 1984;
SPANISH ROOM SURVEY 1984

Gerald Penney

MICMAC ARCHAEOLOGY

Research continued during the 1984 summer field season into Micmac use and occupancy of the south central interior of Newfoundland. The area investigated this year is now referred to as the "West Country" by Conne River Micmacs.

My assistant, Aloysius Benoit, spent two seasons trapping here as a boy. His first visit, in 1941, was with his father (Paul), his uncle (Frank) and his son (Sylvester). They arrived in this part of the country via Bay du Nord, having reached the latter by dory from Conne River. Bay du Nord was home during the 19th century to a large Micmac population, many of whom eventually moved to Conne River after the establishment of a reserve at Conne River by the colonial government in 1872, and the closure of the telegraph station at Bay du Nord.

From the bottom of Bay du Nord our field party climbed a high hill to deposit their packs in preparation for the next day's journey to Kiskedee (Burnt Hill). The trail to Burnt Hill lies south of Basket Pond, where earlier Micmacs might set up camp depending on the weight of their packs. However, Burnt Hill was the major campsite for those entering or leaving this part of the country.

The first known occupant of Burnt Hill was Ned Pollet who constructed a winter house there sometime during the second half of the 19th century. It had collasped by the 1940s; however, a pile of stones which formed the foundation for its chimney was still visible.

Sites were found on the south slope of Burnt Hill in a large droke of black spruce. Ned Pollet's winter house is identified by a rock hearth (2 x 1 m) some seven metres southwest of a flagged north tree. A test of one corner revealed calcined bone and charcoal, as did a test of a raised area to the east. The winter house is situated in a clearing measuring 28 m by 18.7 m.

Very few windfalls obscured the surface, although only one structure -- the winter house -- is visible in the ground. Found on the surface were cracked caribou bone, some apparently heat-treated, the base of a green glass bottle, and a fragmented dish of English made warranted china manufactured by Mellor and Co.

A path some 30 m in length leads east from the above site (Area A) to Area B. Three features were observed here: a large charcoal filled rock hearth containing mammal and bird bone, a second feature also containing charcoal; and an overturned tree whose roots revealed the partial remains of the Benoit wigwam.

Burnt Hill appears as a major camping area frequented by Micmacs entering the interior via Bay du Nord. Preliminary testing indicates four features associated with habitation structures, the oldest being Ned Pollet's winter house. A small excavation, possibly of the winter house, is tentatively planned for early spring, 1985. Aspects of Micmac ethnography and social history are to be combined with archaeological data in the final report.

COW HEAD/SPANISH ROOM

An archaeological contract was obtained from Marystown Shipyard Limited during the fall of 1984 to investigate the construction of an oil rig repair facility at Spanish Room, near Marystown on the Burin Peninsula. One prehistoric and three European sites were identified as historic resources within the project area.

Archival Research

The place name Spanish Room seems to confuse this area's oral and written history. While we know that both French and Spanish fishermen once enjoyed privileges on this coast, we do not know if they occupied this particular harbour for any lengthy period.

The expedition of the Englishman Captain Charles Leigh to Cape Breton and the Magdalen Islands in 1597 (Quinn 1979: 68-75) includes an account of Spaniards in Placentia Bay. On Leigh's return trip to England, after mixed success in trying to harvest sea mammals in the Gulf, he put in at St. Lawrence (S. Laurence), where he "hoped to finde a Spanish Ship" (ibid.)

After landing at the "harbour of Lano (Lawn), which lieth foure leagues to the West beyond Cape Laurence" (ibid.), they followed the coast in their shallop. At Little St. Lawrence, they found one Spanish ship and at "Great S. Laurence hard by" they also found "certaine Basks of S. John de Luz" (ibid.).

Michael Francis Howley in his "Newfoundland Name-Lore" comments on Spanish Room. He suspected the settlement to be "of very ancient origin, as early perhaps as 1521" (Howley 1912:109). Here he may be quoting Sieza, an "old Spanish writer", quoted in an earlier article on settlement in Spaniard's Bay. Howley explains that "There are a few rocks or boulders heaped together on a small plain a little to the north of the settlement". These resemble a stone wall or an artificial mound, and "tradition holds that they are the remains of an old Spanish or Portuguese Chapel".

However, it is possible that "Spanish" does not refer to a harbour occupied by Spaniards at all but to a particular cure of fish. The top grade, Merchantable, was sold in Spain, Italy and Portugal. This may have been a harbour (room) well suited to the production of this cure.

A cursory check of the map collection in the Centre for Newfoundland Studies at Memorial University did not reveal Spanish Room on a British Admiralty chart until 1773. It is not named on Cook's 1775 map, even though Mortier Bay is, on Lane's 1790 map, or on Bonnycastle's 1842 map of Newfoundland.

The 1836 census recorded Spanish Room as having a population of 37, 33 of whom were Roman Catholics. At that time it had four dwellings. Beau Bois, at the southern entrance to Mortier Bay, had 107 residents. The 1845 census did not specifically mention Spanish Room, although the population of Mortier Bay was given as 291. By 1857 Spanish Room's population had risen to 138, all Roman Catholics. There were 18 inhabited houses and one house uninhabitated. Its shoreline was divided into four fishing rooms and the community had one merchant. Burin's population was 2020.

The 1869 census contains more settlement detail and a pattern emerges in Spanish Room. Its population drops slightly (20%) to 115 individuals, all Roman Catholics. Eighteen families occupy 16 houses. There are 11 stores and outbuildings and 10 fishing rooms. Agriculture supplements fishing (carried out in 19 boats with 12 nets and seines), with 52 acres of cultivated land producing 26 tons of hay.

Lovell's Directory of Newfoundland (1871), based on 1869 census data, does not mention the surname Devereaux, from whom the proponent purchased the development land in Spanish Room, however, the surnames Dober, Pike and Power appear. Seary (1976: 135) notes George Dober, from Dorset, as the first settler of Beau Bois, while John Dober (1771-1856), also from Dorset, resided at Spanish Room. He thought "that the Devereauxs were `first settlers' ? from France, of Spanish Room (Mortier Bay) in 1837" (Seary 1976: 131). Keating (1970: 10) records the marriage of Patrick Devereaux to Mary Farrell of Little Bay in 1868. The 1921 census records his son Patrick (b. 1869) and his wife Isabell at Spanish Room; it also records Phillip Devereaux Sr. (b. 1843), a widower, as owning a small farm at Spanish Room.

Sites

Three sites are associated with the Devereaux settlement of Spanish Room. Two are the house remains of Phillip (b. 1843) and Patrick (b. 1869) Devereaux, while the third is the foreshore remains of the fishing store.

A prehistoric site found on Cow Head produced six chert flakes, one of which is a linear flake. The linear flake and one other are of the same green chert as found on Recent Indian sites elsewhere on this coast (Penney 1985). A small Ramah chert flake, generally associated with Paleo-Eskimo occupation, was also recovered. It is also possible that this distinctive raw material could associate with Recent Indian occupations as Ralph Pastore (personal communication 1984) has found Ramah flakes at the Boyd's Cove site in Notre Dame Bay, where there is no Plaeo-Eskimo component.

The prehistoric site, due to erosion or its initial temporary nature, appeared to consist of no more than a scattering of flakes. The remains of the Devereaux's houses and shoreline store were not considered old enough to warrant further investigation or mitigation.

No impact management action, except for monitoring during the site preparation stage, was recommended. It was cautioned that no additional development of the Spanish Room Peninsula occur without a full-scale historic resources assessment.

Future researchers may be concerned with sites relating to the inner bay and harbour settlement of first generation European immigrants who arrived after the Napoleonic Wars. It was their 19th century European folk culture which evolved incorporating the environment and economy of Newfoundland.

REFERENCES CITED

Howley, Michael Francis

1912 Newfoundland Name-Lore. (A series of articles originally published in The Newfoundland Quarterly, 1901-1914). Indexed by Johanna Sargent, St. John's, 1955.

Keating, J.L.

1970 Mortier Bay. Undergraduate student paper, on file Maritime History Archives. Memorial University.

Lovell, John

1871 Directory of Newfoundland. John Lovell, Montreal.

Penney, Gerald

1985 The Prehistory of the Southwest Coast of Newfoundland. Unpublished M.A. thesis, Department of Anthropology, Memorial University of Newfoundland, St. John's.

Quinn, David (ed.)

1979 New American World. Arno Press, New York.

Seary, E.R.

1976 Family Names of the Island of Newfoundland. Memorial University of Newfoundland, St. John's.

ARCHAEOLOGICAL RESOURCES INVENTORY, SIGNAL HILL NATIONAL HISTORIC PARK, ST. JOHN'S, 1984

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An inventory of archaeological resources in Signal Hill National Historic Park was undertaken in the summer of 1984 to provide input to a new management plan for the park. Signal Hill was made a national historic park in 1958. Prior to this summer, however, no inventory had been made of the archaeological resources relating to British military occupation from ca. 1780 to 1870, subsequent use of the hill for medical quarantine purposes to 1920, and its long term function as a communications centre. Reports by Parks Canada historians (Ingram 1964; Proulx 1978; Candow 1979, 1980a, 1980b) provided the documentary background for the survey. Candow (1979) is the most comprehensive of these reports and is the source for most of the uncited historical information contained herein. Previous archaeological research in the park, in 1965-66 (Jelks 1973) and 1969 (Karklins 1971), was largely restricted to Queen's Battery with additional excavations at Ladies' Lookout.

Folded and eroded beds of sedimentary rock form three ridges with intervening valleys running north/south through the park. The highest of these provides a natural citadel, with steep cliffs facing the Atlantic and the entrance to the harbour. This ridge, including Signal Hill proper and Ladies' Lookout, contained the greatest concentration of military features of the British defenses.

Although the British garrison had attempted to concentrate its facilities on the highest ridge, the complications of rugged topography and harsh climate forced the military establishments to be scattered along the ridges and through the valleys in discrete areas of activity. Each of these areas, with the exception of Queen's Battery, provided a focus for the archaeological survey. With limited time available, our strategy was to select representative features within each of the areas and excavate minimal test trenches as a means of estimating the extent and state of preservation of cultural remains. The 1984 survey tested the following structures and/or areas (Figure 1):

- LADIES' LOOKOUT
    - North Range Soldiers' Barracks
    - lower terrace
- SIGNAL HILL PROPER
    - 1837 soldiers' barracks
    - 1836 officers' barracks
    - wash house
    - 1806 officers' barracks (parking lot)
- ARTIFICERS' WORKSHOPS/ARMOURY YARD
    - armoury
    - subaltern's residence
    - yard & palisade
    - field
    - unidentified feature
- ARTIFICER'S RESIDENCE, ROSS'S VALLEY
- GEORGE'S BARRACKS/ST. GEORGE'S HOSPITAL
- GIBBET HILL
    - guardhouse/barracks
    - World War II gun position
- CARRONADE HILL
    - carronade battery
    - World War II gun position

Surface reconnaissance alone was used to investigate gun battery sites in Cuckold's Cove and a cholera hospital in Ross's Valley.

Results of the survey indicate that, in most locations, structural remains and their associated cultural deposits are sufficiently well preserved to provide major resources within the park for the interpretation of military and medical themes to the public. Many of the original gun batteries, however, being located on rocky promontories, have suffered from erosion and from displacement by World War II activities. The inventory provides a data base for recommended future developments and enables the park to pinpoint areas for protection and preservation.

LADIES' LOOKOUT

Ladies' Lookout, the highest point in the park at 163 m above sea level, was the site of earliest historical use, including pre-garrison signal masts and initial garrison fortifications. Most of the remains of its gun batteries have disappeared from the rocky summit of the ridge, but substantial traces of barracks and service buildings are preserved on a series of six terraces below the ridge, clinging to the cliffs facing the sea. Jelks successfully tested three of these terraces (1973:41-57), and our investigations in a barracks building and a terrace midden were equally successful.

North Range Soldiers' Barracks: This building, a wood frame structure on masonry foundation, 45.7 x 7.3 m, was one of the earliest built on the hill, yet managed to survive in its uncompromising environment to beyond the end of the military occupation. Completed in 1800, it served as a barracks at least until 1842. Although providing poor shelter from the strong winds and cold temperatures, it was home to as many as 144 men, some with their wives and children. An illustration of the hill in 1884 (Candow 1979: Figure 62) shows the barracks still standing.

Testing revealed a well-preserved masonry foundation of roughly cut stone facing and rubble fill at the southeast corner of the building (Figure 2). A deep midden from the military occupation covers the ground beside it, held from slumping onto the terrace below by a later retaining wall.

The midden deposit reflects the domestic function of the building, particularly during the first half of the 19th century. All ceramic ware types found, with creamwares and pearlwares predominant, were in use prior to 1850 (ceramic information in this report is from Hansen 1985.) Among the other finds were two pairs of scissors, a wine glass stem and a fire steel (Figure 12 c,g,h), as well as two clay marbles, a Mexican 1/4 real coin dating between 1829 and 1837, and military buttons of the Royal Artillery and Royal Newfoundland Regiment (Figure 11 a,h).

Over 900 bones were recovered. Species identification and analysis by Frances Stewart (1985) indicates a diet that included domestic cow, sheep and pig, supplemented with locally procured cod and other fish, and at least one seal flipper.

A buried sod layer caps the British military strata and is itself covered by a layer from U.S. Army activities in World War II. A large earthwork for an artillery piece is visible over the far end of the barracks remains, and the deposit may have been used to level the area during its use.

Lower Terrace: Most of the buildings on the east side of Ladies' Lookout were supported on terraces held in place by massive stone retaining walls (Figure 3). Two lower terraces at the northern end are unrecorded in historical documents and probably functioned as support for the higher terraces. The uppermost of these two was tested.

A British midden deposit of silt, cinders and coal, 50 cm thick, lies on the terrace over a bed of loose rock used to level the terrace behind the wall. The cultural material appears to have been dumped from the occupied terraces above. It indicates an early-to-mid 19th century deposition. Creamwares and pearlwares again dominate the ceramics. Two domed buttons of two-piece construction, of the Royal Artillery and Royal Newfoundland Companies (Figure 11 c,e), support a mid-19th century date. A World War II gun position on top of the midden appears to have caused little disturbance.

SIGNAL HILL PROPER

While the summit of Signal Hill proper is covered by a modern asphalt parking lot, most of the historical remains lie along the eastern slope beyond the edge of the lot (Figure 4). Tests in this area indicate little disturbance along a continuous range of structural remains stretching the entire length of the summit to Ladies' Lookout. Testing in the parking lot was inconclusive but, supported by the evidence in 20th century photographs, suggests that the limited number of features there had been badly disturbed or removed prior to the laying of the lot.

1837 Soldiers' Barracks: Construction of a soldiers' barracks in 1837 was prompted by directives to concentrate the military force on the summit as well as by a need to provide improved facilities. The masonry structure was 32.6 x 12.5 m and, like most of the buildings on the summit, was located on the edge of the east slope.

At the southern end of the building, a massive stone wall surrounded an open yard. This area included a washhouse, cookhouse, ash pit and both men's and women's privies. The barracks itself was divided into two houses, one for the Royal Artillery and one for the Royal Newfoundland Veterans. Faults in the chimneys combined with the effects of a severe climate created intolerable living conditions in the building and forced Governor Sir John Harvey to order the removal of the troops in 1842. Following this, the building was converted to military stores.

After the withdrawal of the garrison from St. John's in 1870, the building served as a hospital for the city, under the names Fever Hospital, Diptheria Hospital, Fever and Diptheria Hospital and Signal Hill Hospital or Lazarette (Candow 1980a: 3). It was here that, in 1901, Guglielmo Marconi received the first transoceanic wireless message. On the night of 20 December, 1920, the building caught fire and burned to the ground.

The outline of the building was discovered by excavation and surface examination. The northeast corner of the foundation was uncovered under a shallow layer of overburden. Further evidence of the east wall could be traced on the surface of the slope. A test trench was placed along the exterior of the north wall, which forms the south wall of an adjacent officers' barracks built in the preceding year (1836). This wall, which stands above ground, is constructed of concrete and may have been a later repair to the Signal Hill Hospital (Candow 1980a: 3). The original stone footing was uncovered below 2.25 m of rubble from the collapse first of the officers' barracks and later of the hospital.

Excavations and surface evidence indicate intact structural remains and place the soldiers' barracks, based on historical dimensions, almost entirely beyond the parking lot. The interior of the building, however, lies partially buried under a heavy fill layer of gravel and boulders dumped along the edge during lot construction.

Only minor clearing was necessary to reveal surface features in the barracks yard at the south end. These include the southeast corner of the wall, a foundation for the privies, and a large cistern (Figure 5) apparently added after 1870 for the use of the hospital.

The triple role of the barracks as a military facility, civil hospital and communications landmark make it of particular importance to Signal Hill National Historic Park.

Wash-house, ca. 1835: At least ten buildings existed at various times on the low field north of the barracks and below Ladies' Lookout, including barracks for the Royal Military Artificers, ordnance stores, blacksmiths' and carpenters' shops and a bakehouse. This area has experienced minimal disturbance in the 20th century and is estimated to contain significant resources from the full time span of the colonial garrison.

A test trench was placed in line with the barracks/hospital at a location where we believed a wash-house from ca. 1835 might be located. A portion of mortared stone foundation was located, but neither structural form nor artifact content confirm the building's identity. Beneath the foundation was a layer of loose rock, 60 cm thick, apparently used to level the field during initial occupation. Twelve ceramic sherds were found in this lower context, eleven of which were of creamware and one of pearlware, suggesting a pre-1820 date of deposit.

Ceramics in the occupation strata of the feature, including sherds of creamware, pearlware, vitrified white earthenware and yellow earthenware, indicate a general 19th century time frame. One clay tobacco pipe bowl (Figure 12i), however, is anomalous in this context. It is of early 18th century Dutch origin, probably disturbed from a lower stratum and probably a remnant from early signalling activities on the hill.

1806 Officers' Barracks (parking lot): To evaluate the extent of disturbance caused by the creation of a parking lot on the summit in 1963, a four square metre area was cut into the asphalt over the presumed location of the east foundation of a wood frame officers' barracks erected in 1806. A backhoe removed 1 m of gravel fill below the asphalt, and a second metre was removed by careful excavation of a trench within the hole. This latter was apparently part of earlier leveling for a parking facility prior to 1955. At the bottom of the test trench, resting on bedrock, was a platform of wood beams. Beside it ran a wooden drain with a section of modern ceramic pipe at one end which indicated 20th construction.

Apart from the 1806 barracks, only three auxiliary structures for the powder magazine had been built in the area under the present parking lot. The two layers of fill for parking facilities appear to have been placed over the top of whatever lay on the surface of the summit and may have caused relatively little damage. Previous activities, however, such as construction of the platform and World War II gun batteries, probably destroyed the remains of these buildings. Archaeological resources under the asphalt may be considered of limited value.

ARTIFICERS' WORKSHOPS/ARMOURY YARD

In 1807, a company of Royal Military Artificers was sent to St. John's to assist in construction of the fortifications on Signal Hill. At some time between their arrival and its first appearance on maps in 1811, a complex of workshops was built below Signal Hill on an open but sheltered field above Queen's Battery (Figure 6). The complex included facilities for masons, carpenters, smiths, and wheelwrights, and quarters for a non-commissioned officer. An armoury was added ca. 1814 and by 1843 a subaltern's residence had been built in the centre of the yard.

Following withdrawal of the Royal Military Artificers (by then known as the Royal Sappers and Miners) from the colony in 1819 (Connolly 1855, 1:234n), the area functioned as an armoury and barracks. The buildings disappeared between 1880 and 1900. By that time, a residence for the signalman at Cabot Tower had been built within the yard. It continued in use until 1965 when it was torn down.

Six excavation units were placed in the complex, testing the armoury, subaltern's residence, yard, open field beyond the palisade and an unidentified depression. The resulting evidence of cultural remains affirms the potential of this area for interpreting to the public the specialized activities which took place here and which were vital to the growth and strength of the garrison.

Armoury: The armoury lies to the west of the road to Queen's Battery. Testing revealed a well-preserved roughly coursed stone foundation (Figure 7) with an interior cobblestone floor. While the floor lies under less than 10 cm of overburden, the foundation, built down the slope at the edge of the field, extends to a depth of 128 cm through layers of construction fill and midden which had accumulated against the back of the building. Artifacts found above the floor and in the upper strata outside the wall include numerous architectural pieces left when the building collapsed. The deeper debris is more indicative of domestic use for which the building partly functioned.

The present road to Queen's Battery appears to cut a part of the north-east corner. Surface evidence of over 10 m of intact foundation along the back, however, suggests that the in-ground remains are substantial.

Subaltern's Residence: Less substantial evidence was found of the subaltern's residence. A trench placed at the edge of a mound corresponding to the structure's location uncovered only a small area of mortared cobbles. This could be part of a hearth, or perhaps a cobbled area along the exterior of the wall.

The feature lay under a cultural stratum 15-40 cm thick, consisting of a dark sandy silt with charcoal, cinders and coal fragments plus domestic debris. The presence of so thick an accumulation over the feature suggests that the area may have been leveled with yard debris when the signalman's house was built. Undisturbed strata below this layer, probably predating construction, contain a high proportion of creamwares and no ceramics originating after 1850. The dark stratum, on the other hand, contains a mix of mid-to-late 19th century materials suggesting a post-1850 date of deposition.

Yard and Palisade: The same dark stratum which covered the subaltern's residence was recorded in two trenches on the edge of the yard. Along their northwestern edge, the pits sectioned part of a ridge which probably corresponds to a palisade. The ridge contained loose rocks of varying size, suggesting that ground-clearing debris from the yard had been pushed up against the palisade. Its mixed ceramic content indicates that this occurred after 1850. The yard accumulation shows some evidence of temporal continuity. Creamwares and pearlwares are predominant in the lower level and absent from the top. A Royal Newfoundland Companies button (1842-1862), however, was found just above the original ground surface while a two-piece, flat Royal Artillery button, ca. 1785 to ca. 1802 (Cameron 1985) appeared close to the sod layer. It seems likely, therefore, that this stratum, like that over the subaltern's residence, represents a later disturbance of the yard accumulation, perhaps related to construction of the signalman's house.

Field: In an unsuccessful attempt to locate the second well, which remained in use up to the 1960s, a test pit was opened over one quadrant of a low earth mound in the adjacent field. The mound was, however, a recent 20th century deposit. In contrast to the armoury yard, there was very little cultural accumulation in the field - ca. 10 cm including sod. One artifact of note, a shako chinstrap plate, probably Royal Artilliary 1816-1829 (Figure 11 m), was recovered in a badly fractured state (the field had been used for parking in the 1950's and 1960s).

Unidentified Feature: To the east of the workshops on the edge of the cliff facing the Narrows, was a roughly rectangular depression assumed to be a former structure. Excavation revealed only a stepped stone feature with an overburden particularly rich in cinders and small iron fragments. Artifacts were few and fragmentary. Ceramics in the builders' trench associated with the construction of the feature suggest an early date, perhaps pre-dating the military occupation. Sherds include not only typical early 19th century creamwares and pearlwares (6 pieces), but also one fragment of Chinese export porcelain and approximately 50 sherds of tin-glazed earthenware, more likely of 18th century origin. This may be an area of undocumented activity on the hill prior to the development of the fortification.

ARTIFICER'S RESIDENCE, ROSS'S VALLEY

While the artificers laboured in workshops to the west of the heights, a number of married men established temporary homes for their families in Ross's Valley below the eastern cliffs. These dwellings were set up in 1808 at the recommendation of Captain George Ross, Commanding Royal Engineer. Their existence is noted only once more in documents, in 1811, when they are listed as 12 in number (Candow 1979: 48), and they were probably abandoned when the regiment withdrew in 1819.

Evidence of fields cleared by the families is readily apparent on looking into the valley from the cliffs (figure 8). Irregular walls of loose rock outline semi-rectangular areas of varying size at the head of Ross's Valley. By the largest of these is a grass-covered rock outcrop which may have supported one of the dwellings. Sherds of glass and ceramics were found around the sides.

A small test trench in the centre of the knoll revealed no intact structural remains but did yield evidence of early 19th century occupation. All of the 168 ceramic sherds recovered were of ware types available prior to 1820. Creamwares and pearlwares are most prevalent. Of particular interest is a lid fragment from a tea or coffee pot of rosso antico, a red-bodied stoneware which had its peak of popularity between 1776 and 1786 (Figure 12 k). Presumably it had been in family use for three or four decades before reaching St. John's.

Structural remains of the various residences may be difficult to detect due to their temporary function. We can surmise from the location of the cleared fields and the results of the test pit that the homes had clustered at the head of the valley where the path from the fortifications descended the precipitous rock face.

GEORGE'S BARRACKS/ST. GEORGE'S HOSPITAL

In March of 1842, the Board of Ordnance in London approved the construction of a hospital and a barracks by George's Pond to provide badly needed facilities in a sheltered location. The hospital, built on a level terrace by the pond, was completed in February of 1843. It was a two-storey stone structure, 42.67 x 12.19 m, and was said to be the largest stone building of the garrison in Newfoundland.

Chimney problems, causing smoke to back up into the rooms, rendered the building unsuitable as a hospital. It was, however, considered adequate for barracks purposes, alleviating the need for the proposed one. In 1846, it was occupied by the Royal Newfoundland Companies and continued in use after 1862 when the regiment was absorbed into the Royal Canadian Rifle Regiment.

In 1871, the recently abandoned building was used temporarily as a hospital while repairs were made to the General Hospital in St. John's. It was subsequently upgraded and used as a quarantine hospital. Known by this time as St. George's Hospital, it was maintained, if not continuously occupied, until 1892. During the Great Fire of 8-9 July, 1892, which destroyed much of St. John's, the building fell victim to embers carried up the hill by high winds and burned to the ground. Stones from the ruins were apparently salvaged for use in the construction of Cabot Tower (1898-1900), and of four residences on Temperance Street.

The location of the barracks was apparent from surface evidence on a terrace overlooking the modern parking lot and Visitor Reception Centre (Figure 9). The undulating surface contains mounds of yellow brick, stone and mortar. A trench was located to section the northeast wall and extended to the heart of the building.

The excavation trench crossed the outer foundation of mortared stone, as well as an inner support wall (Figure 10). This latter stood .90 m high and lay in .95 m of brick, stone and mortar rubble. Below the rubble was a thin lens of charcoal from the 1892 fire. Strata below that appear to relate to the construction period with little evidence of accumulation over the subfloor during occupation.

Few artifacts of either military or hospital use were recovered. The structure itself appears to be in an excellent state of preservation despite the removal of rubble for building materials.

A second, smaller test trench was placed on the edge of a mound presumed to be part of an outbuilding shown on a military plan of 1848 (Candow 1979: Figure 42). The trench sectioned a stone foundation as broad as that for the barracks, and revealed layers of both charcoal and plaster in the interior of the room. The present road cut, enlarged from the original military road, has destroyed a corner of this structure and most of an adjacent one.

GIBBET HILL

Guarding both the harbour and the entrance to the park, Gibbet Hill rises to an elevation of 119 m above sea level (Figure 9). By the mid-1700s, a gibbet had been placed on the peak of the hill to display the bodies of executed criminals. It continued in use there until 1794. The following year, Wallace's Battery was built on the same spot, its armaments described in 1805 as two 12-pounders. The battery also included a brick powder magazine and a wooden guardhouse/barracks for two officers and ten privates. By 1827 only the barracks remained in use. It is referred to again in 1834 and appears finally on a plan of 1851.

During World War II, a 155-mm anti-aircraft gun position was built over the site of Wallace's Battery. A concrete base for the gun still covers the earlier battery.

Guardhouse/Barracks: A straight ridge running through a sheltered depression behind the battery suggested the location of the guardhouse/ barracks. A test trench was placed at either end of the ridge in an effort to determine the extent of the structure as well as to which side of the ridge the structure might lie.

Excavations did not uncover intact structural remains. The ridge was composed of large stones lying loosely in a soil matrix. There was no evidence of mortar on them and no explanation for the ridge has been formulated. It did separate strata of differing composition, however, suggesting that a barrier of some kind had stood there. Artifacts gave little indication of a temporal development within each test unit but were surprisingly different between the two, indicating a horizontal rather than vertical distribution through time. Both trenches provided large samples of artifacts from barracks activities. Ceramics in the earlier trench suggest deposition from the late 18th century to ca. 1825. Sherds in the lowest levels include

83% creamware with small quantities of pearlware and Chinese export porcelain, as well as fragments of a black basalt stoneware teapot ca. 1767-1820 (Figure 12j). Among the non ceramic artifacts were two flat, two-piece Royal Artillery buttons, ca. 1785 to ca. 1802 (Figure 11 a), and an Irish George III halfpenny dated 1766.

In the other trench, ceramic ware types include later 19th century yellow earthenware and vitrified white earthenware. The former indicates continued occupation of the building after ca. 1850. This trench held a variety of military artifacts, including 16 Royal Artillery buttons of various designs (Figure 11 b, c, d), an ammunition pouch attachment (Figure 11 o), a shako chinstrap plate, probably Royal Artillery of 1846-1855 (Figure 11 n), two lead musket balls and two small pieces of iron shot. Other artifacts include bone buttons (Figure 12 a, b), four glass beads (Figure 12 d,e), a stone marble, a key and a bone cutlery handle (Figure 12 f).

While limited testing revealed no extant structural remains, the artifact yield indicates rich midden deposits spanning the entire period of British military occupation. In this respect, the archaeological resources of the guardhouse/barracks must be regarded as significant.

An undocumented mound above the guardhouse/barracks was identified through excavation as a World War II small gun position. A thin layer below the earthwork contained an undisturbed British context with creamware, pearlware and white earthenware sherds of early to mid 19th century ascription. This probably represents casual scatter from the adjacent guardhouse/barracks.

CARRONADE HILL

The battery on Carronade Hill was placed at its northern end ca. 1797 to protect the defences from land attack across Quidi Vidi gut. This had been the route by which the British successfully assaulted the French in 1762. In 1805, the battery was listed as having three 18-pounders. It is not subsequently listed and must have been discontinued shortly thereafter.

During World War II, the south end of the hill was occupied by B Battery of the U.S. Army and a major gun position, probably for a 155-mm anti-aircraft gun, was set up in the centre of the hill. The concrete pad is still visible. The presence of major U.S. installations in this area was not initially known to us, and our investigation of features assumed little 20th century intrusion. Such was obviously not the case. U.S. Army activities have disturbed virtually all of the historical resources from the British occupation in this area.

Test pits were placed in low mounds at either end of the hill. Both were subsequently shown to be small gun positions of the U.S. Army, probably for 50-calibre machine guns. The northernmost mound is presumed from its location to lie over the original 18th century carronade battery, although archaeological confirmation was not forthcoming. Scattered ceramic sherds of porcelain, pearlware and yellow earthenware, mixed in the American occupation layers, indicate a former British presence. No intact contexts, however, appear to have survived.

CUCKOLD'S COVE

Surface examination in Cuckold's Cove failed to locate a British gun battery dating to 1780, primarily because of the dense thicket in the area. No testing was done, but it is expected that at least one of the two gun platforms may be intact. The cove is of interest also as the only location of commercial activities within the park. Eighteenth century military maps indicate fish flakes in the shelter of the south bank. On later maps of the 19^{th} century, as well, the area is shown in private hands.

CHOLERA HOSPITAL

Remains of the 1892 cholera hospital, which burned down in 1911, were located at the mouth of Ross's Valley (Figure 8). They suggest a relatively insubstantial structure. No foundations were evident, and the location was noted only by concentrations of nails and burnt window glass on the ground. *In situ* resources are minimal.

CONCLUSION

The 1984 archaeological inventory of Signal Hill National Historic Park has confirmed the survival of 19th century remains in many of the areas identified by historical documentation. Substantial structural remains exist along the entire east slope of Signal Hill proper and Ladies' Lookout combined, as well as in the Armoury Yard and at George's Barracks/St. George's Hospital.

Additionally, significant artifact deposits are found on Gibbet Hill, on the lower terraces of Ladies' Lookout and possibly also around the artificers' residences in Ross's Valley. Areas of little potential include Carronade Hill and the cholera hospital in Ross's Valley. The status of Cuckold's Cove is undetermined.

It is doubtful whether excavation of the above areas could add significantly to the known history of the park, but it can play a very real and valuable role in relating that history to the visiting public. The location of archaeological remains highlights the nature of British fortification on the hill and the sense of control which the environment placed on the garrison. This is perhaps one of the most compelling aspects of the site, marrying the historical themes to an already acclaimed physical setting. As a result of the 1984 inventory, archaeological resources will play a key role in the formulation of decisions regarding future developments aimed at increasing the public's awareness of the history of Signal Hill National Historic Park.

A more detailed report on the 1984 inventory and excavations is being prepared for microfiche publication by Parks Canada in the Manuscript Report Series.

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The field crew consisted of ten students from the Department of Anthropology, Memorial University, and one from the College of Fisheries, Navigation, Marine Engineering and Electronics, funded by a Federal Projects Stream grant from Employment and Immigration Canada. I am particularly grateful to William Gilbert as contractor for the crew and as my field assistant.

Lab space during the summer was provided by Memorial University's Department of Anthropology through the support of Dr. James Tuck and Clifford Evans.

Particular interest was shown by the people of St. John's, and I am grateful for the many who shared their knowledge and recollections of events on the hill.

REFERENCES CITED

Cameron, Janet

1985 "Glass, Metal, Small Finds and Miscellaneous Material from the 1984 Excavations at Signal Hill N.H.P." Manuscript on file, Atlantic Regional Office, Parks Canada, Halifax.

Candow James E.

1979 Structural and Narrative History of Signal Hill National Historic Park and Area to 1945. Manuscript Report Series No. 348.Parks Canada, Ottawa.

1980a Signal Hill's Hospitals, 1870-1920. Research Bulletin No. 121. Parks Canada, Ottawa.

1980b A Structural and Narrative History of Queen's Battery, Signal Hill National Historic Park. Manuscript Report Series No. 343. Parks Canada, Ottawa.

Connolly, T.W.J.

1855 The History of the Corps of Royal Sappers and Miners. 2 vols. Longman, Brown, Green and Longmans, London.

Hansen, Denise

1985 "Ceramic and Pipe Dating Analysis, Signal Hill". Manuscript on file, Atlantic Regional Office, Parks Canada, Halifax.

Ingram, George C.

1964 "Structural History of the Fortifications and Military Buildings at Signal Hill". Manuscript on file, National Historic Parks and Sites Branch, Parks Canada, Ottawa.

Jelks, Edward B.

1973 "Archaeological Explorations at Signal Hill, Newfoundland, 1965-1956". Canadian Historic Sites: Occasional Papers in Archaeology and History, No. 7. Ottawa.

Karklins, Karlis

1971 The Structure 2 Annex, Signal Hill, Newfoundland. Manuscript Report Series No. 39. Parks Canada, Ottawa.

Proulx, Jean-Pierre

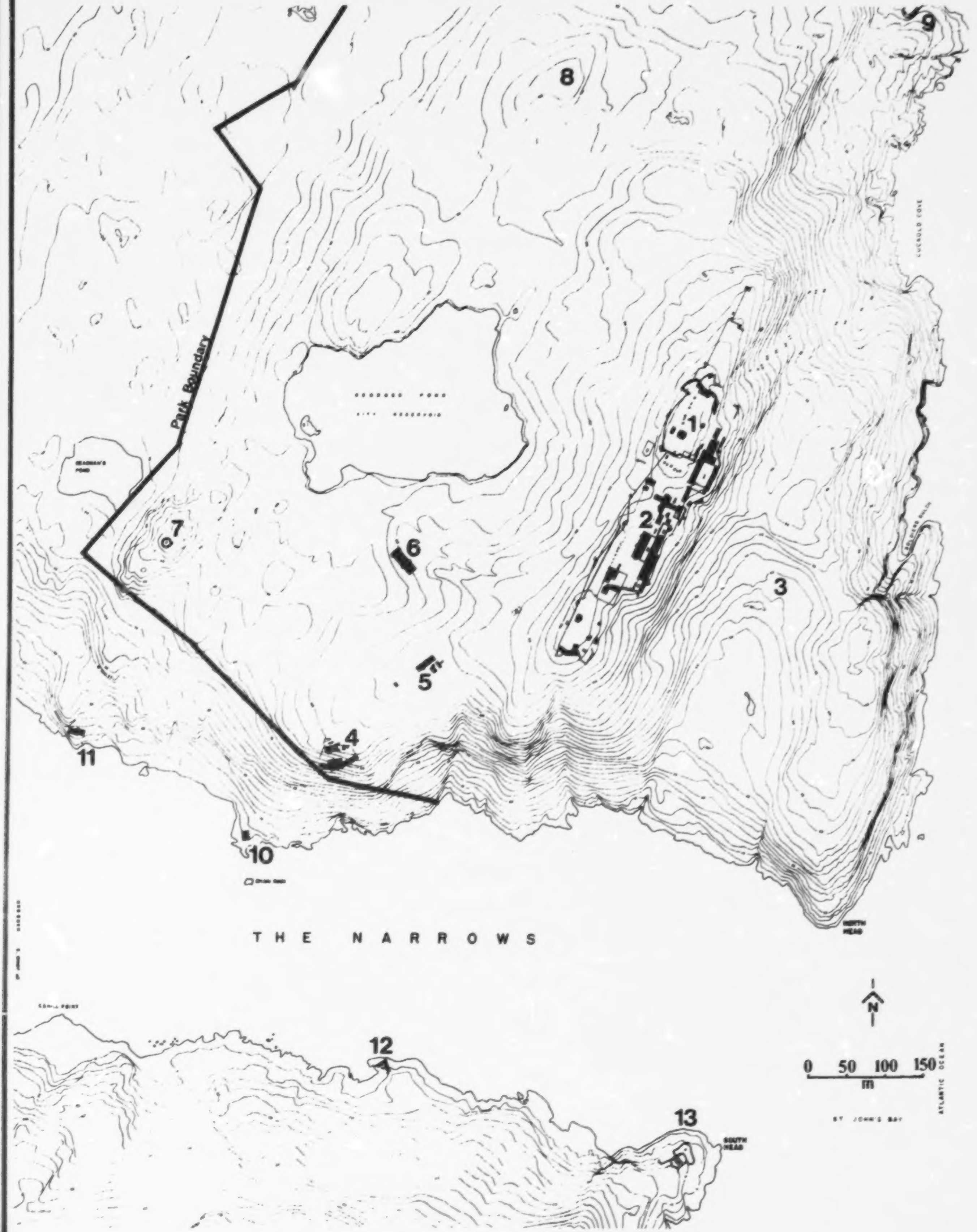
1978 Histoire de St.John's et de Signal Hill/History of St. John's and Signal Hill. Manuscript Report Series No. 339. Parks Canada, Ottawa.

Stewart, Frances

1985 "Faunal Remains from excavations in 1984 at Signal Hill, Newfoundland." Manuscript on file, Atlantic Regional Office, Parks Canada, Halifax.

Figure 1

Signal Hill National Historic Park. Site locations within and adjacent to the park: 1. Ladies' Lookout; 2. Signal Hill proper; 3. Ross's Valley; 4. Queen's Battery; 5. artificers' workshops/armoury yard; 6. George's Barracks/St. George's Hospital; 7. Gibbet Hill; 8. Carronade Hill; 9. Cuckold's Cove; 10. Chain Rock Battery; 11. Waldegrave Battery; 12. Frederick's Battery; 13. Fort Amherst.

9
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Park Boundary
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NORTH HEAD
THE NARROWS
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m
ATLANTIC OCEAN
ST. JOHN'S BAY
13
SOUTH HEAD

Figure 2

Final excavation, southeast corner of North Range Soldiers' Barracks, built 1799-1800: 1. mortared stone foundation; 2. midden deposit; 3. mortared stone retaining wall; 4. bedrock.

Figure 3

Nineteenth century stone retaining walls at Ladies' Lookout: 1. location of excavation on lower terrace; 2. lowest terrace; 3. retaining wall supporting 19th century British military structures.

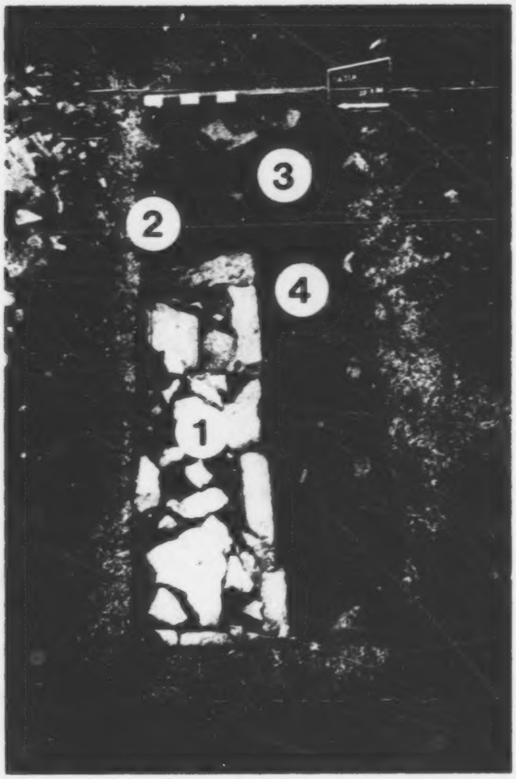
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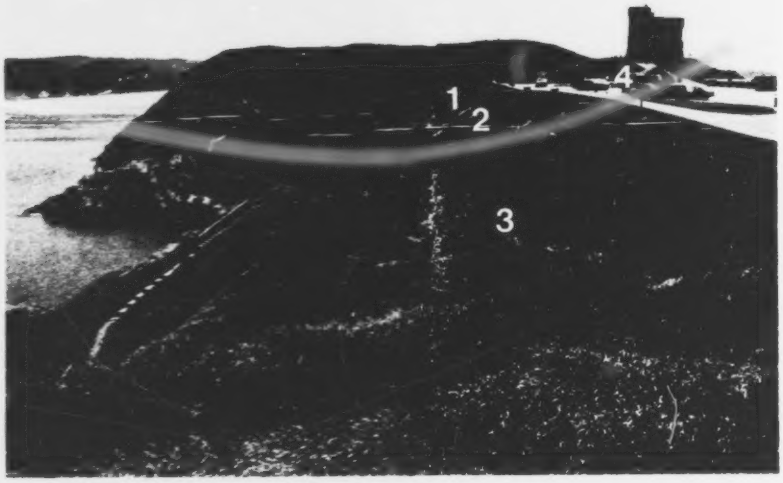
Figure 4

East slope of Signal Hill proper: 1. 1837 soldiers' barracks/Signal Hill Hospital; 2. 1836 officers' barracks; 3. possible wash-house, ca. 1835; 4. 1806 officers' barracks.

Figure 5

Yard area of 1837 soldier's barracks: 1. southeast corner of stone wall around yard; 2. cistern for Signal Hill Hospital.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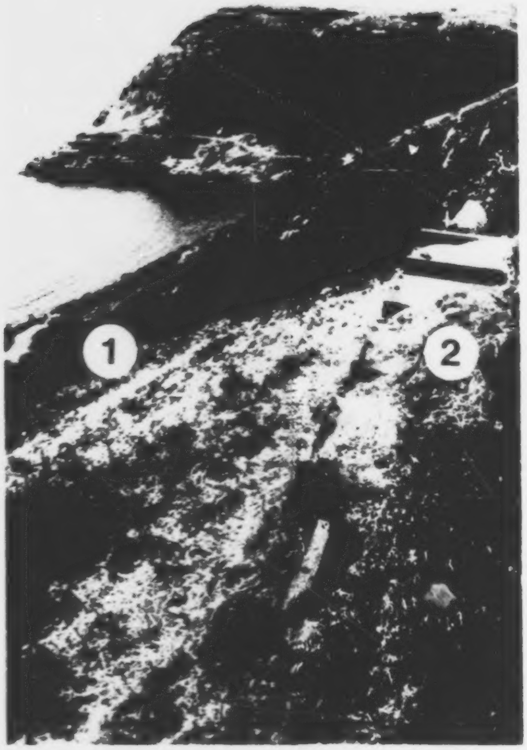
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Figure 6

Town and harbour of St. John's, 1 June, 1831, by William Eagar. The armoury yard is in the centre foreground and shows former workshops, the armoury building, a water pump and palisaded areas. The subaltern's residence has not yet been built. Queen's Battery lies beyond to the left. (Provincial Archives of Newfoundland and Labrador, A7-37, St. John's, pre-1846 fire).

Figure 7

Stone foundation of armoury, constructed ca. 1814.

Figure 8

Features in Ross's Valley: 1. artificer's residence, ca. 1808 to 1819 (tested); 2. cleared field; 3. cholera hospital, 1892 to 1911.

1A 30A
STONE WALL
9 8 84

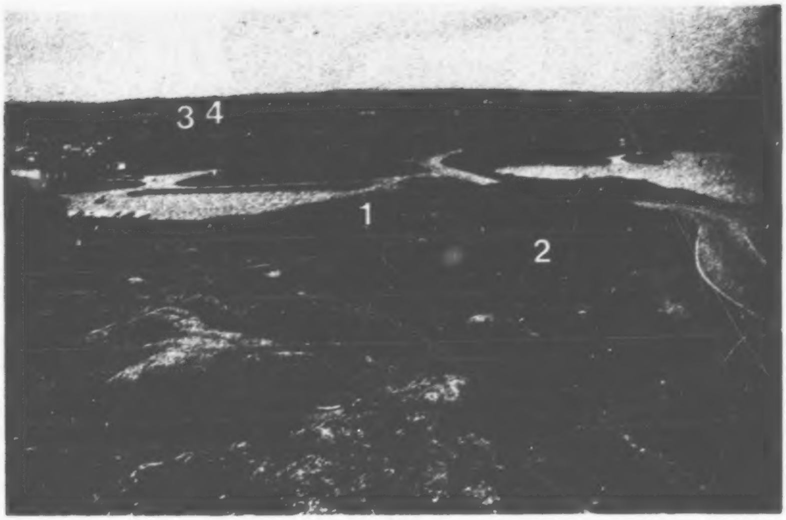
3

Figure 9

Southwest corner of park: 1. George's Barracks/St. George's Hospital; 2. outbuilding: Gibbet Hill: 3. Wallace's Battery (and World War II anti-aircraft gun portion): 4. guardhouse/barracks.

Figure 10

Profile of test trench in George's Barracks/St. George's Hospital: 1. exterior foundation; 2. interior support foundation; 3. sod mixed with rubble; 4. rubble, with mortar, brick and stone; 5. brick concentration from chimney collapse; 6. charcoal lens, 1892 fire; 7. construction fill and foundation footings.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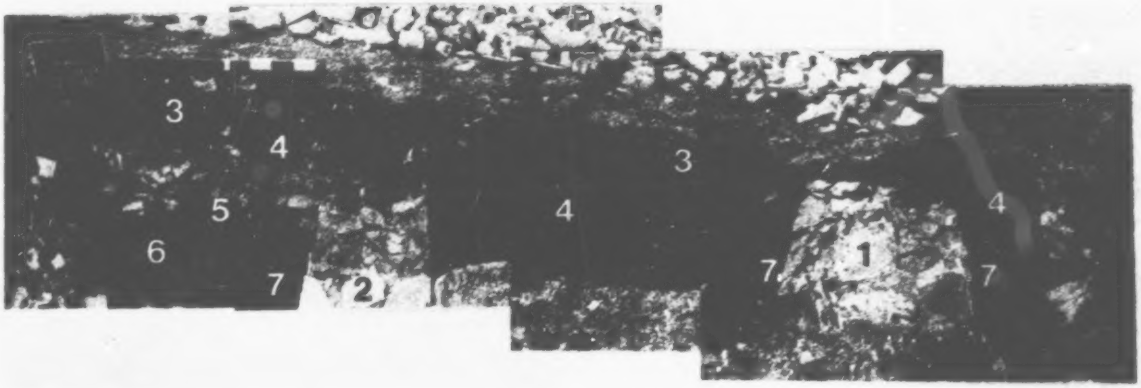
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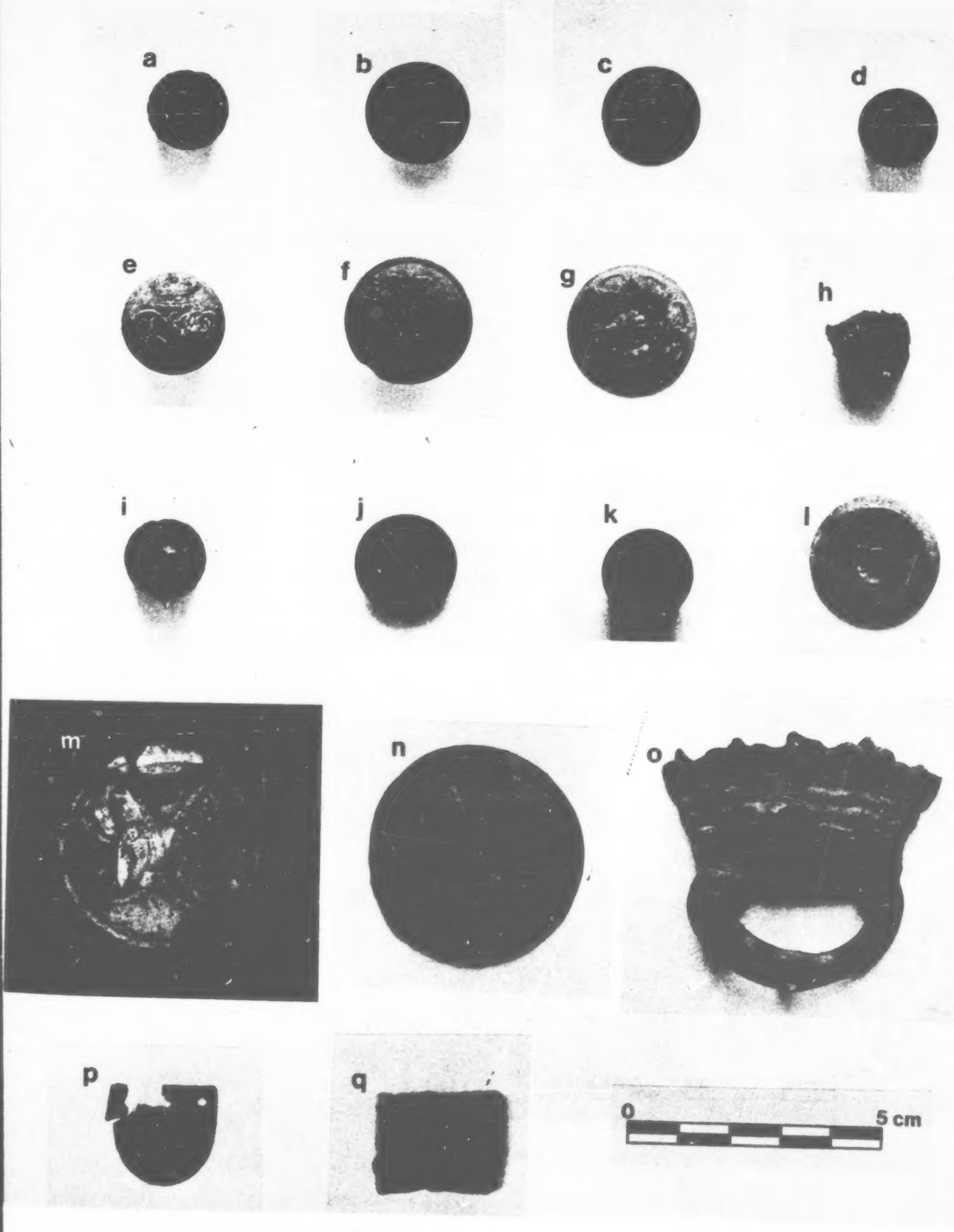
Figure 11

Military artifacts: Scale 1:1. Metals shown prior to conservation.

a-l. regimental buttons: a. Royal Artillery ca. 1785-ca. 1802; b. Royal Regiment of Artillery, ca. 1802-ca. 1820; c. Royal Artillery, 1833-1838; d. Royal Artillery, 1838-1855; e. Royal Newfoundland Companies, 1842-1862; f. Newfoundland Constabulary, 1871-; g. 15th (York East Riding) Regiment on Foot; h. probably Royal Newfoundland Regiment, 1795-1802; i. back of 2-piece flat button (reverse of a); j. back of 2-piece domed button (reverse of c); k. back of 3-piece button; l. back of 3-piece button, inscribed "P. Tait & Co. Limerick" (reverse of g).

m-q. miscellaneous: m. shako chinstrap plate, probably Royal Artillery, 1816-1829; n. shako chinstrap plate, probably Royal Artillery, 1846-1855; o. brass attachment for ammunition pouch; p. shako chinstrap scale; q. gunflint.

Identification of items f and h was provided by Bernard Ransom, Newfoundland Museum.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f
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h
i
j
k
l
m
n
o
p
q
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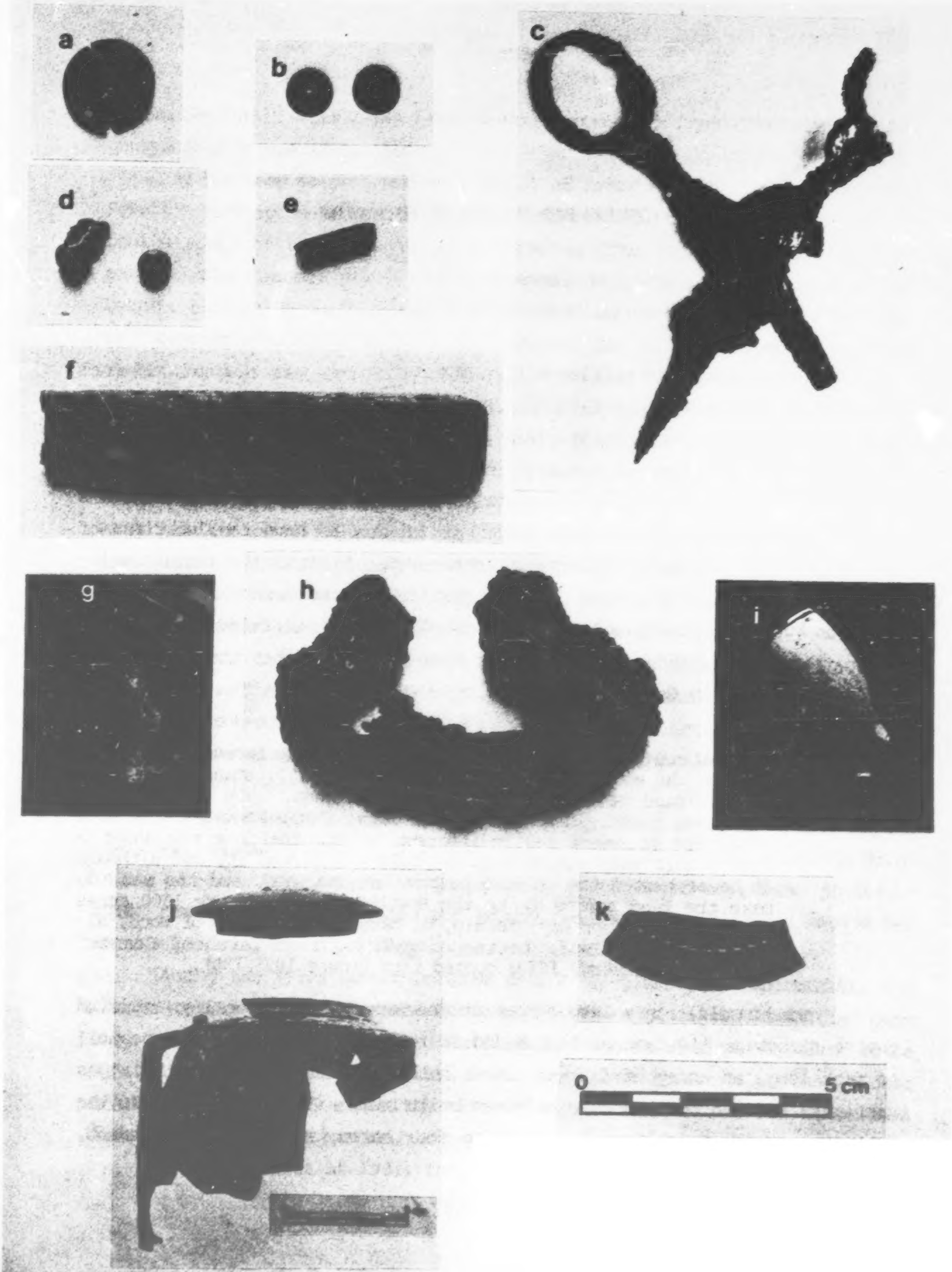
5 cm

Figure 12

Scale 1:1, except j (2:1). Metals shown prior to conservation.

a. bone button; b. bone discs, possibly used as buttons; c. scissors; d. blue glass spherical beads; e. blue glass tubular bead; f. bone cutlery handle incised with initial 'H;' g. wine glass stem; h. fire steel; i. early 18th century Dutch tobacco pipe bowl; j. black basalt stoneware teapot, ca. 1767-1820; k. `*rosso antico*' red-bodied stoneware tea or coffee pot lid fragment, ca. 1762-1786.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LOOKING FOR THE COLONY OF AVALON

James A. Tuck
Memorial University of Newfoundland

That George Calvert, later Lord Baltimore, was one of several proprietors who participated in the English attempts to colonize the east coast of North America from Virginia to Newfoundland is well-known to both historians and the general public. The general location of the colony, at Ferryland about 80 km south of St. John's on the east coast of Newfoundland's Avalon Peninsula, has never been "lost" to history as have the locations of some other early attempts at European settlement. In fact, two letters written to Calvert from Ferryland in 1622 provide descriptions not only of the location but of the construction accomplished by the first colonists in their first year at Ferryland. Capt. Daniel Powell reported that the manor house built for Calvert by Capt. Edward Wynne,

> "..standeth very warme, at the foot of an easie ascending hill on the south east and defended with a hill, standing on the furbher side of the Haven in the North West. The beach in the north and south sides of the land locke it, and the seas on both sides are so neare and indifferent to it, that one may shoot a Bird's bolt into either sea. No cold can offend it, and although it be accounted the coldest harbour in the Land, and the seas do make the land behind it to the South-East being neere 1000 acres of good ground for Hay, feeding of cattle, and plenty of wood, almost an Iland, safe to keepe anything from ravenous Beasts" (Powell to Calvert, 1622; quoted from Prowse 1895:130).

Wynne himself, in a letter sent at the same time as Powell's, reported that a structure "44 foot of length and 15 foot of breadth containing a hall 18 foot long, an entry of 6 foot, and a cellar of 20 foot in length..." as well as a kitchen and henhouse had been built before Christmas 1621. In the following summer a "palizado", enclosing four acres, a "Parlour," tenement, forge, and salt works had also been constructed (Wynne to Calvert, 1622; quoted from Prowse 1895: 129).

As has been pointed out by a number of investigators (c.f. Harper 1960), Powell's description of the location of the original colony best fits the area to the south of the inner harbour, known as "The Pool," immediately to the east of the tombolo beach which connects Ferryland Head to the mainland. Despite this evidence controversy still exists as to the location of the early 17th century structures built by Capt. Wynne. Dr. S. T. Brooks, who excavated at Ferryland in the late 1930s, identified an area to the west of the tombolo beach, near the present school, as the site of Calvert's colony, although the material recovered by him is not available for inspection. During the construction of the school, however, a well was encountered and a small collection remains in the Newfoundland Museum. The datable ceramics and other material are more typical of the late eighteenth century than the early seventeenth, thus, while not disqualifying Brooks' interpretations it seems to throw some doubt upon them. J. R. Harper, on behalf of the Historic Sites Division, Department of Northern Affairs, excavated a six by six foot test square to the east of the isthmus in 1959 where he found evidence of three occupations. These he described (Harper 1960) as Victorian, Seven Years War, and mid-seventeenth century, all separated stratigraphically in about two and one-half feet of deposit. The earliest material included hand-forged nails with attached bits of wood, an early form of door lock, "sgraffito ware" ceramics, square "gin" bottles, a smoking pipe with a small "acorn-shaped" bowl, and a green glass alley (Harper 1960: 111), all of which could be dated to the mid-seventeenth century. Except for the nails and door lock, no structural remains were encountered but Harper believed that his test square had revealed a "wing or outbuilding to the main Baltimore house" (ibid.).

During the 1970s Robert Barakat (n.d.) reevaluated the documentary and archaeological evidence for the location of the original settlement and concluded that either of the areas identified by Brooks and Harper appeared to be equally valid. Barakat conducted no excavations, however, to test either hypothesis, apparently since the site of Brooks' excavations had since been destroyed by new construction.

During the fall of 1984, faculty and students from Memorial University again took up the search for the Calvert settlement, not so much to settle the controversy surrounding the location of "Baltimore's house," but to find evidence from the early colonial period, when actual settlement was encouraged, to compare with the slightly earlier Red Bay sites during the use of which only the extraction of wealth from eastern Canada's resources was contemplated. Following the same reasoning as Harper (1960), we selected for testing two small vacant lots immediately to the east of the tombolo beach. The results of excavations at each area are summarized below. (I did not realize how closely we had followed Harper's reasoning until I noticed the small arrow in a photograph on p.107 of his 1960 article. It points almost exactly to the area where one of our test squares revealed a disturbed area which may, in fact, be his original test pit.)

The western series of test squares, Area A, comprised three adjacent and one isolated one-metre square in a north-south trench, all of which were excavated to sterile beach gravel. The stratigraphy in all was essentially similar although deeper in the northern, isolated square. Beneath a shallow sod zone containing material from the last century, a deep deposit (up to 90 cm in the north) of black soil and small beach cobbles contained only scattered traces of occupation including nails, iron fragments, ceramics, and glass. Analysis of this material has not yet begun but it does not appear to date to the early seventeenth century. Whether the vertical distribution of material parallels that from Area B described below remains to be determined.

At the base of this deep stratum, resting upon sterile beach gravel, was a thin dark humus(?)lens containing nails and other iron fragments but no clearly datable material. The position of the layer itself suggests some antiquity but its precise age awaits further investigation.

Area B, to the east of these excavations (and apparently the location of Harper's excavation) was far more productive. Twenty-one one-metre squares, including a four by four block, were opened and at least partially excavated. The presence of features which extended into adjacent sections in two levels prevented their being excavated to sterile subsoil. Stratigraphy was apparent in nearly all sections (except for those which have suffered from recent disturbance) and appeared as follows:

Stratum 1 is a loose gray cultivation zone varying from about 10 to 15 cm thick, at the base of which the remains of hand dug furrows were occasionally visible. Residents report that it was once gardened regularly and this no doubt accounts for the mixing of cultural material from the 18th century to the present. Depths were recorded for each specimen during the excavation of the first six squares and an analysis of these data revealed no rational vertical distribution of artifacts. Nor were any features encountered in this shallow deposit.

Stratum 2 is a much more compact light brown layer varying from about 10 to more than 30 cm in thickness and containing small irregular pebbles and cobbles which do not appear to be derived from beach gravels. Cultural material, which will be described more fully below, dates almost exclusively from the seventeenth and very early eighteenth centuries. The origin of this stratum, which Stratum 1 may have resembled prior to gardening, is somewhat difficult to explain. It was at first believed to be fill deposited at some relatively recent time with artifacts from some earlier period randomly incorporated. However, the discovery of a feature (Feature 2, see below) and in situ refuse deposit dating from the late seventeenth century in the uppermost levels of the deposit seem to eliminate this possibility. Moreover, the material contained within Stratum 2 appears to increase in age as excavation proceeds downwards giving the impression that it formed gradually during the seventeenth century. Although this cannot be substantiated until a complete analysis of the present collection is complete, and probably not until further excavations are undertaken, it is just possible that gardening activities on the "easie ascending hill on the south east," which are reported by Wynne for the year 1622 resulted in relatively rapid erosion of the surface and redeposition of the eroded soil on the level land where our excavations took place. Deforestation of "the Downs" which Powell (cited from Prowse 1895:130) states provided "plenty of wood" may also have been the factor in erosion and the formation of Stratum 2 during the late 17th century.

The lowermost culture layer, Stratum 3, appears as a grey layer of somewhat less compact texture immediately below Stratum 2 and resting on sterile beach gravels. It is up to 10 cm thick in places and contains material from the second quarter of the seventeenth century. Artifacts from this stratum and from Feature 1, which is associated with it, appear to date from the second quarter of the seventeenth century.

FEATURES

Two features were discovered and partially excavated during the fall of 1984 in addition to which the remains of a number of stone wall segments were revealed but not to an extent where they can be assigned feature numbers.

Feature 1

Feature 1 consists of an intensely black deposit containing a large amount of coal and charcoal which no doubt account for its distinctive colour, as well as what appears to be ash, an extremely large number of iron fragments, and an even greater amount of slag. In places, the entire deposit appears to be literally paved with slag and amorphous and concreted bits of iron. Although only a portion of the deposit has been exposed (we are not certain of the southern or eastern limits) and the deposit itself has only been sampled and not completely excavated, the conclusion that this was an iron working area seems inescapable. A forge must have been a necessary part of any attempt at colonization; tools and weapons would have required repair and may have been fabricated there. In fact, Wynne reports having completed a forge in the year 1622 so the discovery of such a structure comes as no surprise. Whether or not this is the forge mentioned by Wynne, however, cannot be ascertained with confidence until the deposit is excavated completely and a greater, and probably more representative, sample of artifacts is recovered. The material at hand, which itself has not been fully analysed, consists of the slag and iron mentioned previously, as well as smoking pipes, ceramics, glass, scraps of copper and a few small remains of wooden objects.

The ceramics include: sherds of at least two cylindrical coarse earthenware vessels with a deep green interior lead glaze perhaps similar to the "tall jars" or "baluster jars" produced in North Devon during the 17th century (Grant 1983: 136-137); sherds of what appear to be a small *sgraffito* ware jug, pitcher or cup produced in the same area; and fragments of several other vessels too small to classify. None bears any inscribed date as is sometimes found on *sgraffito* ware, nor can the sherds be dated any more precisely than the seventeenth century.

Glass from Feature 1 includes a base fragment of a small clear glass vessel, perhaps a bottle or drinking glass, and fragments of several pale green square "case" bottles, so called because they were shipped and stored in wooden or wicker cases. Thus far no trace of the more recent dark green "onion" type bottles has been found. This may be significant, for although the earlier case bottles continued to be produced until the eighteenth century they began to be supplanted by the more durable onion type during the 1640's (Noel Hume 1969: 60-69).

Smoking pipes include a number of more or less intact bowls or bowl fragments and a greater number of stem fragments. The bowls are of the small "acorn" variety with a bulbous body, and constricted rim with rouletting around the exterior surface (see Figure 1). A comparison of the bowls with examples illustrated by Noel-Hume (1969:303) and Walker (1977) suggests that the pipes were produced between about 1620 and 1660 which is in accordance with other evidence from Feature 1. Makers marks of two types appear on the large flat heels of several bowls. They include an impressed rosette which it thus far has been impossible to identify, and the initials "I.H" which is also not recorded by Walker. However, there were a number of Bristol pipemakers of the seventeenth century who might have been responsible for this mark. They include: Isaac Hale (1670s and 1680s); John Harris (died by 1641); John Harvey (1698 - early 18th century); John Haskins (apprenticed 1656); John Hennant (apprenticed 1684); John Hockaday (apprenticed 1692); John Holstead I (apprenticed 1655 - died by 1689); John Holstead II (1690s); John Hunt I (freed 1651); John Hunt II (freed 1689); and John Hunt III (1680s to early 18th century) (Walker 1977: vol. c). Of the eleven possibilities those working after about 1660 would seem to be eliminated by the bowl forms recovered from Feature 1. This leaves John Harris, John Holstead I, and John Hunt I as the most likely candidates for the I.H mark, but provides no more specific evidence of the date of the forge. It would be gratifying to find that the mark is that of John Harris, who died by 1641, but thus far the mark defies identification. The pipestem fragments provide a mean date in the 1640s (using Binford's formula from Noel-Hume 1969:299) although Noel-Hume (1982: 121-129) and others have described difficulties with utilizing this technique on assemblages dating prior to the late seventeenth century.

The other material, small hoop and cant fragments from what may be staved containers of some sort and what appears to be scrap copper, provides no evidence of chronology but the latter, apparently cut fragments of sheet copper perhaps intended as patches for kettles, suggests that iron was not the only metal worked by the smith at Ferryland.

Additional support for the admittedly vague date is provided by material from Stratum 3 which has produced virtually identical material, including similarly marked smoking pipes, coarse earthenware, sgraffito ware (see Figure 2), and case bottle glass. As is the case with Feature 1 itself, however, no more precisely datable artifacts have been recovered.

In sum, then, Feature 1 appears to be the site of a forge which dates from the second quarter of the seventeenth century. This is supported by the inordinate amount of iron scattered about, the slag, coal, and charcoal, and scrap copper which can also be interpreted as evidence of metalworking. Nor do the other artifacts contradict this hypothesis for they include only tobacco pipes and containers for liquid which suggest activities engaged in by the smith during moments of relaxation - smoking, eating, and drinking.

Feature 2

The second feature recorded during the fall of 1984 consists of what appears to be a portion of a burned structure and a small associated midden at the top of Stratum 2 near the eastern limits of our excavations. It comprises the eastern portions of four one-metre squares and almost certainly extends into the adjacent garden to the east. What has been exposed thus far appears to represent a board or timber running north-south and several other timbers or boards running to the east. All are completely carbonized; no trace of the original wood remains. It is presently impossible, owing to the limited extent of our excavations, to associate this burned structure with any of the wall segments exposed, but the orientation appears to be about the same.

Embedded in the charcoal was a 6-pound cast iron cannonball and about a metre to the south of that a gun lock (see Figure 3), probably an English "dog lock", which make it tempting to attribute the destruction of the structure to other than natural causes. History tells us that the Ferryland colony was plundered by the Dutch in 1673 (Prowse 1895) and that the inhabitants were driven off at least twice by the French during the 1690s (ibid.). Once again, the limited extent of our excavations makes it impossible to confirm this suggestion but the dating of the associated artifacts indicates that the destruction of this structure took place sometime in the latter half of the seventeenth century.

Although not even cataloguing of the material has yet been completed, a preliminary study has been made of the smoking pipes and some impressionistic data from the other material may be mentioned. Pipe bowls are considerably larger than those from Stratum 3 and Feature 1 but still do not bear the characteristics of those made in the eighteenth century (see Figure 2). Except for one example, all bowls retain the constricted and rouletted rim of earlier examples and comparisons with dated specimens place them in the period approximately 1650 - 1680 (cf. Noel-Hume 1969:299). Using the same technique described above, a mean date based upon bore diameters falls in the early 1660s but, again, such figures should be used with caution. The ceramics associated with this structure include lead glazed coarse earthenware of a variety of forms, the most notable of which are fragments of handled cooking pots called "pipkins" which were produced by the same North Devon potteries from which fragments of several sgraffito ware bowls and plates (see Figure 4) may have come. Somewhat surprising is the large number of tin glazed earthenware sherds, often bearing traces of blue or polychrome decoration, associated with this structure. I am not aware of any attempt to provide economic scaling of seventeenth century ceramics but it certainly seems likely that such wares were at least somewhat more expensive than the plain lead glazed earthenwares. If this is the case it indicates times of prosperity at Ferryland during the late seventeenth century, at least for the occupants of the destroyed structure. Glass includes two fragments of a stemmed drinking glass, clear bottle glass fragments, and sherds of both early case bottles and the more recent "onion" variety.

The impressions gained from these classes of artifacts are two-fold. First, the material from Feature 2 points to a date in the second half of the seventeenth century, although this is subject to change, or hopefully refinement, when analysis of the material is complete. The second impression is that the material represents refuse differing in composition and reflecting a different set of activities from the limited types of material recovered from Feature 1. A far more complete range of ceramics, including cooking, storage (?), and serving vessels, glass, which includes at least one example of table glass, as well as the ubiquituous smoking pipe fragments and other material strongly suggests domestic refuse; it might even be suggested tentatively that the destroyed structure represented by Feature 2 is the remains of a dwelling constructed after the abandonment of the underlying forge which took place sometime prior to 1650.

CONCLUSIONS AND SOME FURTHER SPECULATIONS

The original intentions of these preliminary excavations were to discover the remains of an early settlement with which to compare the structures and material from the somewhat earlier "exploitative period" of European utilizations of Newfoundland and Labrador. While we did not discover any remains which can be dated unequivocally to the time of Wynne's initial settlement of Ferryland it appears that we may be very close to doing so. Stratum 3 and the associated Feature 1 seem to date to the second quarter of the seventeenth century and probably represent part of the existing ground surface upon which the original settlement was planted; the forge may, in fact, be that built during 1622 but that possibility cannot be addressed properly until more information is at hand.

It is probably in order to make a few comments regarding the location of "Baltimore's house", which has been the subject of several searches and much controversy over the past century. If the forge discovered during the fall of 1984 does date from the original settlement or from the time during which the manor house was still standing (probably until at least 1674), which seems probable in view of the preliminary dating of the material recovered, it seems likely that it would not have been constructed immediately adjacent to the principal residence of the governor of the colony. It might be suggested, therefore, that remains of the large (44 by 15 foot) structure will probably be found in one or more of the vacant gardens which probably still contain intact seventeenth century deposits. Again, only additional excavation, and a good deal of luck, might reveal the remains of the manor house with its stone fireplaces and cellar.

Comparisons with the material and structures from the earlier exploitative period are still not possible as the data from Ferryland are far from complete and those recovered remain to be analysed. One comment is possible at this time, however, for despite extensive test-pitting at Ferryland and previous explorations at other sites known to European fishermen of the previous century at Renews, Fermeuse, Cape Broyle, Placentia, Spear Island, Tors Cove, and in Nova Scotia at Grassy Island (R. Ferguson, personal communication), no trace of sixteenth century material has been found. Although this preliminary and completely negative evidence must not be taken too seriously at this juncture it seems that this apparent absence of evidence accords well with the historic record. For the most part the sixteenth century fishery was prosecuted by Portuguese, Spanish, and French (particularly Basques from the latter two nations) and was essentially a "wet" or "green" fishery in which the fish were not dried but were salted directly in the hold of the ship and returned to market in that form (c.f. Matthews 1973: 68-69). Such a fishery could actually be conducted at sea (the "banks fishery") with no need to visit port except perhaps to reprovision. Cleaning, cutting, and salting of fish was done aboard the main vessel and fish were actually caught by men fishing from the side of the ship which had brought them from Europe. Based upon this description and the absence of evidence of sixteenth century utilization of land surrounding the harbours of the eastern Avalon Peninsula it is possible to propose that the early inshore fishery made only limited use of shore stations and that the actual work of preparing the fish was done aboard ship anchored in the various coves and harbours well known to early fishermen and cartographers. A survey of the bottoms of harbours and anchorages might well reveal further evidence bearing upon this hypothesis.

The contrast between the sites of the early settlement period and the previous exploitative period in eastern Newfoundland, could not be greater. While at least one site of the more recent period appears archaeologically rich and at least potentially productive of evidence for a variety of activities, sites dating from the previous century appear to be archaeologically invisible. This is certainly not the case when preliminary results from

Ferryland are compared with the evidence from places such as Red Bay and other sixteenth century stations in southern Labrador where whaling, and possibly other activities which required land-based operations have been explored. Such sites appear to be as archaeologically visible, and perhaps as productive (or nearly so) of structures and artifacts as is the site at Ferryland, although once again this impression remains to be investigated and is offered here only as an hypothesis.

In conclusion, therefore, it seems as if the 1984 excavations at Ferryland, while not having revealed undeniable traces of one of the earliest permanent settlements in eastern Newfoundland, have come very close to it and in so doing have pointed to some directions for research in the early European exploitation and colonization of the province toward which archaeology may contribute a few answers.

REFERENCES CITED

Barakat, Robert A.

n.d. Some comments on Lord Baltimore's House at Ferryland, Newfoundland. Unpublished paper on file at Archaeology Unit, Memorial University, St. John's, and at the Newfoundland Museum.

Grant , Alison

1983 North Devon Pottery: the Seventeenth Century. University of Exeter.

Harper, J.R.

1960 In quest of Lord Baltimore's house at Ferryland. Canadian Geographical Journal, vol. 61, pp. 106-113.

Matthews, Keith

1973 Lectures on the history of Newfoundland: 1500-1830. Memorial University, St.John's.

Noel-Hume, Ivor

1970 Artifacts of Colonial America. Alfred A. Knopf, New York.

1982 Martin's Hundred. Alfred A. Knopf, New York.

Prowse, D.W.

1895 A History of Newfoundland. Macmillan and Co., London and New York.

Walker, Iain C.

1977 Clay Tobacco Pipes with Particular Reference to the Bristol Industry. Parks Canada, National Historic Parks and Sites Branch, History and Archaeology No. 11,Ottawa.

Figure 1

Ceramics from Feature 1 and Stratum 3. At the upper left are two stoneware sherds; the uppermost is a brown-glazed "Rhenish" example, perhaps from a Bellarmine jug, the lower example is grey-bodied stoneware from the same region. The three larger sherds are all coarse earthenware, possible produced in one of the many North Devon potteries operating in the 17th century. The sherds are from a small jar or bowl (upper right), a "tall jar" (lower left), and a "pipkin" type cooking vessel (lower right).

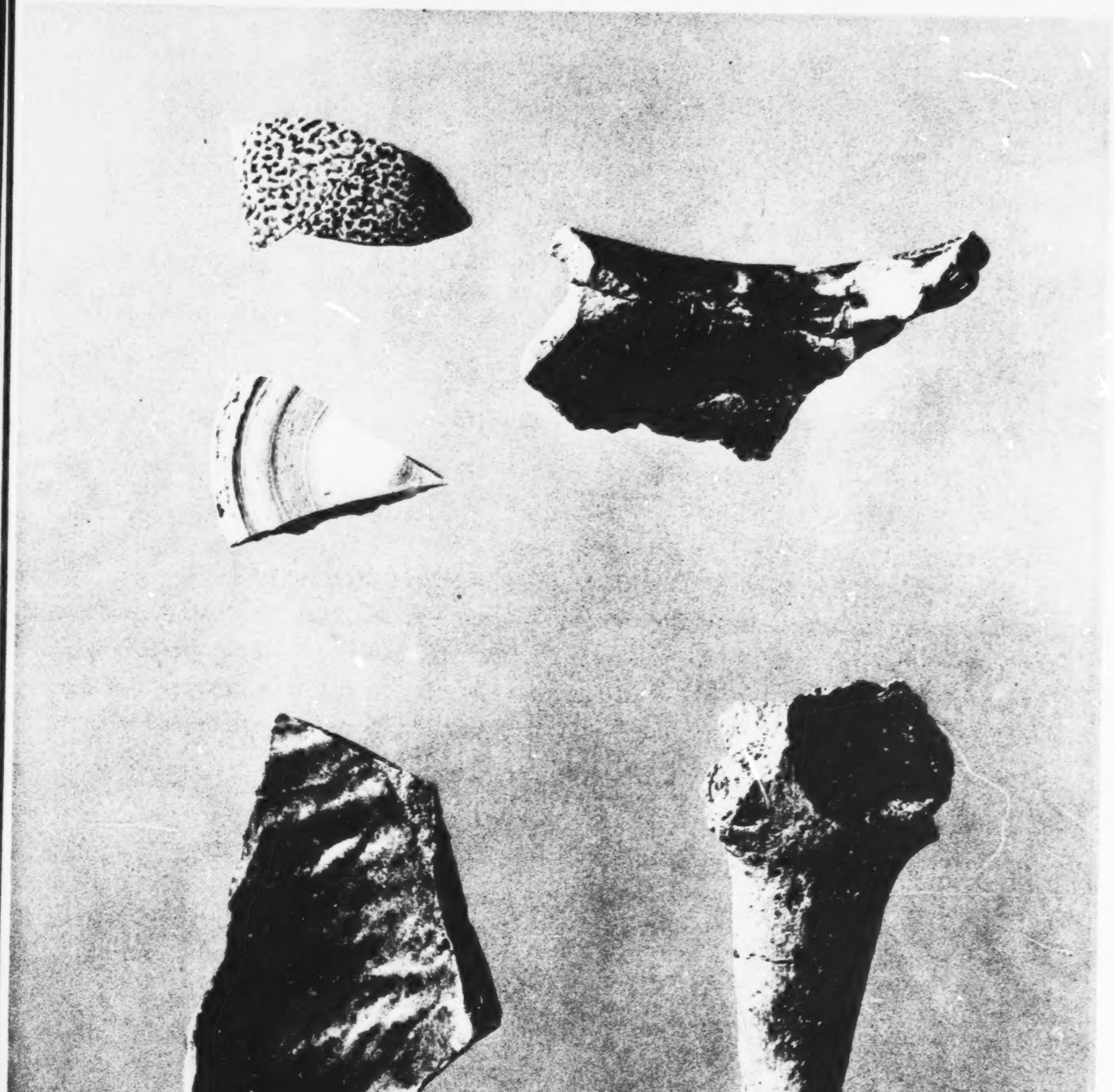
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Figure 2

Smoking pipes from Stratum 3 (below the nearly intact specimen), and Stratum 2 (the nearly intact example and above). Note the small bowls on the lower series which are typical of the early 17th century and the much larger bowls, some of which retain the rouletting around the rim; these examples are typical of the late 17th century. The specimen in the centre was associated with the destruction layer called Feature 2.

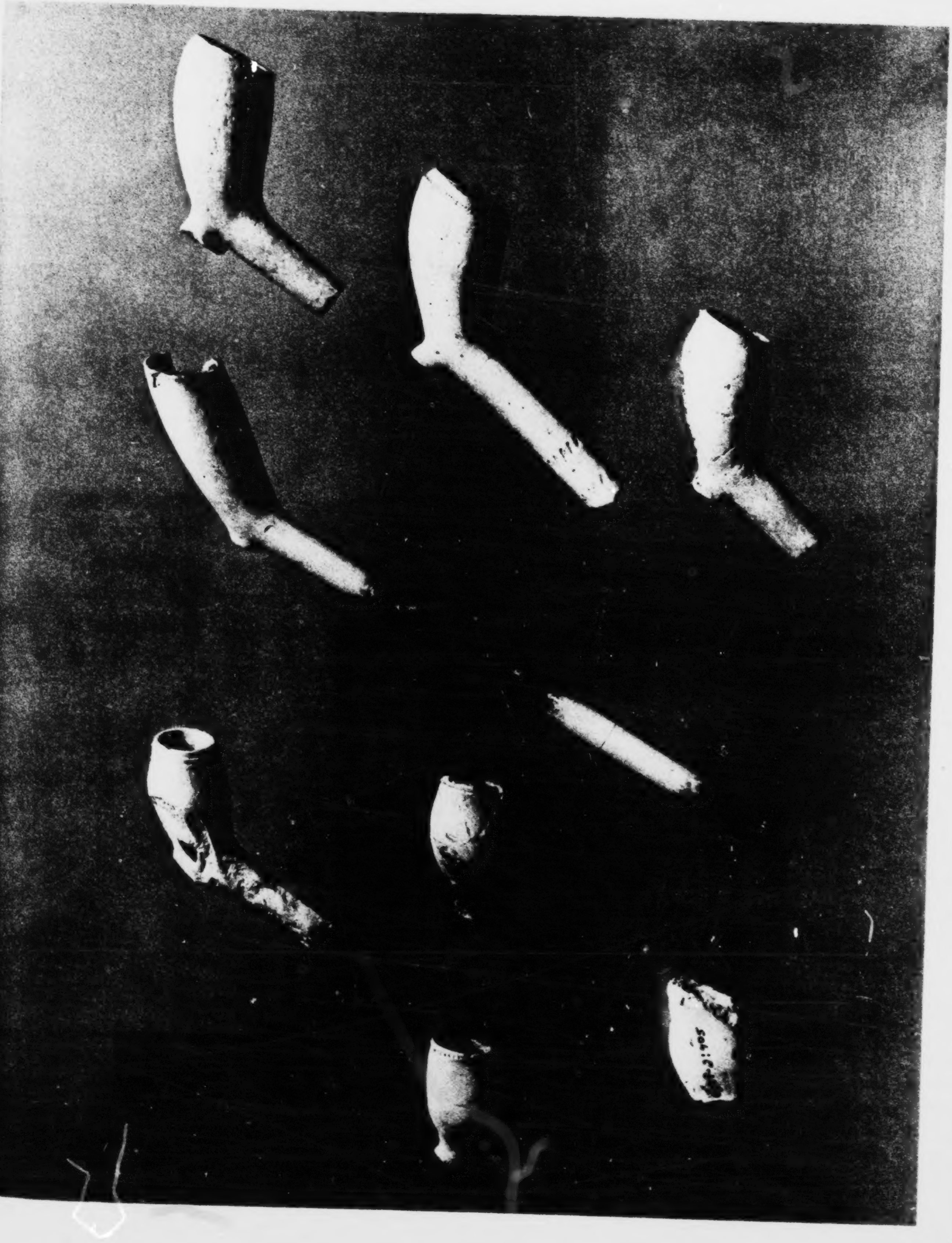

Figure 3

Lock plate and external mechanism from what is believed to be an English dog lock of the 17th century. The cock, which is typical of this type of lock, is rotated backward past its normal cocked position. The dog is not clearly visible on this specimen. The small stop or "buffer" between the cock and frizzen is also typical of weapons of this type. The battery or frizzen is in the open position. The pan is not present and was apparently a part of the barrel.

Figure 4

Ceramics from Stratum 2. These sherds, including two "sgraffito ware" examples (upper and centre left), a pipkin (top right), and two fragments of a lustre ware porringer were all associated with the destructions layer called Feature 2. The "sgraffito ware" and pipkin are typical of North Devon potteries. The origin of the porringer is not known but it resembles Iberian or Mediterranean examples.

ARCHAEOLOGY UNDERWATER AT FERRYLAND
A PRELIMINARY SURVEY

Roy Skanes
Mark Deichmann

The small fishing community of Ferryland is located roughly 80 km south of St. John's on the eastern side of the Avalon Peninsula (Figure 1). Although no European attempt at permanent settlement was undertaken here until 1621, Ferryland harbour was certainly well known by migratory fishermen (French, Portuguese, Spanish and Basque) at least as early as the first quarter of the 16th century (Barakat n.d.: 1). There are many reasons for the early popularity of this harbour. Chief among these is that, like many harbours and coves along the Southern Shore, it is located conveniently close to fishing grounds and is deep and well protected.

During the fall of 1984, James A. Tuck, aided by students and faculty from Memorial University, conducted archaeological excavations at Ferryland. His work concentrated primarily on survey and excavation of sites located along the south side of the small inner harbour known as the Pool (Figure 2). The main objectives of Tuck's research are: 1) to find evidence from the early colonial period at Ferryland, 2) to compare such remains with material from a slightly earlier (16th century) Basque whaling station at Red Bay, Labrador (Tuck: this volume).

On at least two occasions over the past fifteen years local Ferryland residents used a crane and "clam-shell" bucket to dredge along the north shore of the Pool. This had been done to facilitate the mooring and docking of inshore fishing boats and obviously resulted in a disturbance of the seabed in this area. Sediments pulled up from these operations were later used as fill to support a retaining wall that encircles the north side of the Pool. Inspection of this fill by the Memorial archaeology crew revealed a great variety of ceramic wares and, in some cases, near complete glass artifacts. The following is a preliminary analysis of this cultural debris.

THE ARTIFACTS, A PRELIMINARY STUDY

The artifacts were, as one might expect, disturbed to the degree that their context and spatial relationships with one another are quite meaningless. For this reason it was seen to be of little or no value to make a statistical study. Their greatest value is in an indication of a) how long a span of time the Pool has been used by Europeans, and b) where these artifacts originated and which cultural groups they represent.

There are a number of sherds which are of French or Iberian origin but have not been identified yet as to type. They are of a domestic ware and may date from the period of French or Iberian use/occupation of Ferryland. Several types however are identifiable. One of these is a rimsherd from a storage/cooking or serving pot exhibiting a scalloped decoration. Style and manufacture of this artifact indicates that its origin is possibly Basque or Iberian, since it is similar to finds that have been made at Red Bay, dating to the 16th century (Figure 3A). Other common wares found are the ubiquitous Iberian storage jar (Figure 3B) and sherds of French Saintonage ware. Positive dating of the above outlined artifacts is presently impossible. This is due to the limited sample size and the fact that French and Iberian pottery are often products of regional traditions which change very little over long periods of time.

The bulk of the ceramic sample is comprised of the gravel-tempered, lead-glazed earthenware of North Devon manufacture (Figure 3C). This includes utilitarian wares as well as examples of sgrafitto in the form of a dish and several small sherds which may be harvest jug fragments (Figure 3D). The sgrafitto style combines the use of different coloured clay bodies and slips which are then incised to create a graphic decoration. All the North Devon pottery corresponds roughly to the 17th century, which was not only the high point in North Devon pottery export but was also the period during which merchants from that region were a central force in the English fishery in Newfoundland (Grant 1983; Watkins 1961).

Several other identifiable types have been found, all British, except for a sherd of Westerwald stoneware and some possible American tankard fragments, all of which date from the 18th century. In general this century is well represented by Buckley ware (Welsh), combed and trailed slipware dishes and mugs, and the stoneware mugs of Nottingham. There is also an interesting chamber-pot fragment made in Staffordshire in the style of Westerwald beer steins with the initail "G R" on the side (George or Guillaume Rex), an obvious anti-royalist propaganda pot, probably owned by a merchant (Watkins 1961).

Apart from the ceramics some attention must be given to the glass artifacts also recovered in the fill. Shaft and globe or onion bottles were found in several well-preserved examples which nicely span the early 18th century using Noel-Hume typology (Noel-Hume 1970). Although no examples of sealed (i.e. embossed) bottles were found it is suspected that they remain to be uncovered, have already been found by local divers, or that there were social and economic factors at work to determine what class of bottles was being used and deposited in the early years at Ferryland.

Of course, the post 19th century period of occupation is also well represented in the collection from the Pool. However, it is impossible to know how biased the data are considering the way in which they were collected. The immediate impression one gets of the artifact assemblages is that the early colonial period of occupation is, by sheer bulk, most strongly represented. The Pool is therefore an important archaeological site of considerable promise. (e.g. A rather heavy oaken knee or frame member complete with treenails and leather shoe fragments were also dredged from the bottom of the Pool. Unfortunately, we are unable to comment on their age or place of manufacture at this time.)

Based on the above, it appears that the artifacts collected from the Pool represent an occupation of Ferryland starting at least as early as the 17th century. A preliminary examination of the ceramics from underwater and those uncovered on land (Tuck: this volume) has revealed that these collections are certainly comparable. It was these important facts that stimulated the undertaking of a preliminary underwater survey. This project had two main objectives: 1) to ascertain the degree of dredging-related disturbance along the north shore of the Pool, and 2) to locate, if possible, an undisturbed area that may prove useful for future archaeological testing.

THE SURVEY

The north shore was chosen for inspection for two specific reasons. First, this is the shore where the dredging occured resulting in the displaced artifact collection. Secondly, in recent years the original south shore of the Pool has been completely covered by backfilling undertaken to facilitate the construction of wharf and stage installations. Therefore, the inspection of the bottom began at the mouth of the small inner harbour and proceeded in an easterly direction parallel to, and approximately 10 m from shore. A 10 m distance was selected as this is the maximum extension of the crane boom (Figure 2).

Evidence of dredging by the tractor is clearly visible throughout the majority of the survey area. This is demonstrated in that, approximately 3 m from the high water line, the water depth along the north shore increases sharply from 1 m to 4 m. This drastic increase in depth corresponds to areas of severe dredging (Figure 4). In places the accumulated bottom sediments have been completely removed and the bedrock exposed.

Luckily, for our purposes, the crane operator involved in the dredging at Ferryland did not complete his job. Located approximately 60 m east of the mouth of the Pool and 4 m from the north shore line is an area that evidently escaped dredging. This in situ sedimentary deposit, compact sand, gravel, fishbone and woodchips, measures 5 m north-south by 1.5 m east-west. Apparently, the operator dug both to the east and west of the above mentioned area and a sedimentary wall or balk was created (Figure 2).

Careful cleaning and inspection of this in situ deposit lead to a very interesting and significant discovery. Protruding from the balk, 20 cm below the top, was a red clay brick fragment which, according to form and material, likely dates to the latter part of the 19th century or early part of the 20th century. The provenance of this artifact might indicate one of two things: 1) the entire in situ deposit is contemporaneous and dates to no earlier than the latter part of the 19th century or 2) the upper portion is not earlier than the latter part of the 19th century but the composition below the artifacts comes from a previous period. As demonstrated, the artifacts collected from the Pool indicate that Ferryland Harbour was being used by Europeans at least as early as the 17th century and through to the present day. The fact that the collection was dredged from the same general location as the undisturbed area suggests that the in situ deposit may contain evidence of human activities at Ferryland throughout the entire historic period.

RECOMMENDATIONS

To obtain a more complete understanding of the overall historic utilization and occupation of Ferryland as a fishing outpost and settlement we recommend that further underwater survey and excavation be conducted, particularly in the Pool. First, both sides of the balk should be re-cut in order to expose a cross section of the in situ strata of the seabed. This accomplished, we will then have a profile of sediments and cultural debris deposited over a period of possibly 400 years. Secondly, a systematic excavation of the balk should be undertaken to establish if a consistent relationship exists between the antiquity of any artifacts recorded and their physical position in the sedimentary composition. A correlation of that nature may likely result in the dating of specific economic activities (eg. cod splitting and/or wood working) that were undertaken by different cultural groups that occupied Ferryland at various points in time.

Of prime interest in this proposed study is whether the in situ deposit located on the north side of the Pool is in fact stratified and contains a definite pre-17th century component. This is archaeologically an unknown period in the overall history of Ferryland and the Southern Shore in general.

It is reasonable to assume that data collected hitherto at the harbour's edge (Tuck: this volume) and in the dredging from the Pool over the past fifteen years barely scratch the surface of what remains buried on land and underwater at Ferryland. It is evident that archaeological investigation is necessary both to recover endangered data (further dredging or looting may destroy what remains undisturbed under water) as well as to learn more about the history of Newfoundland from an archaeological point of view.

ACKNOWLEDGEMENTS

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REFERENCES CITED

Barakat, Robert A.

n.d. *Some Comments on Lord Baltimore's House at Ferryland, Newfoundland*. Unpublished report, Department of Anthropology, Memorial University of Newfoundland, St. John's.

Grant, Alison

1983 *North Devon Pottery: the Seventeenth Century*. University of Exeter.

Noel-Hume, Ivor

1970 *Artifacts of Colonial America*. Alfred A. Knopf, New York.

Watkins, Malcolm

1960 North Devon Pottery and its Export to North America in the Seventeenth Century. *U.S. National Museum Bulletin* 225, Washington, D.C.

Figure 1

Area of survey

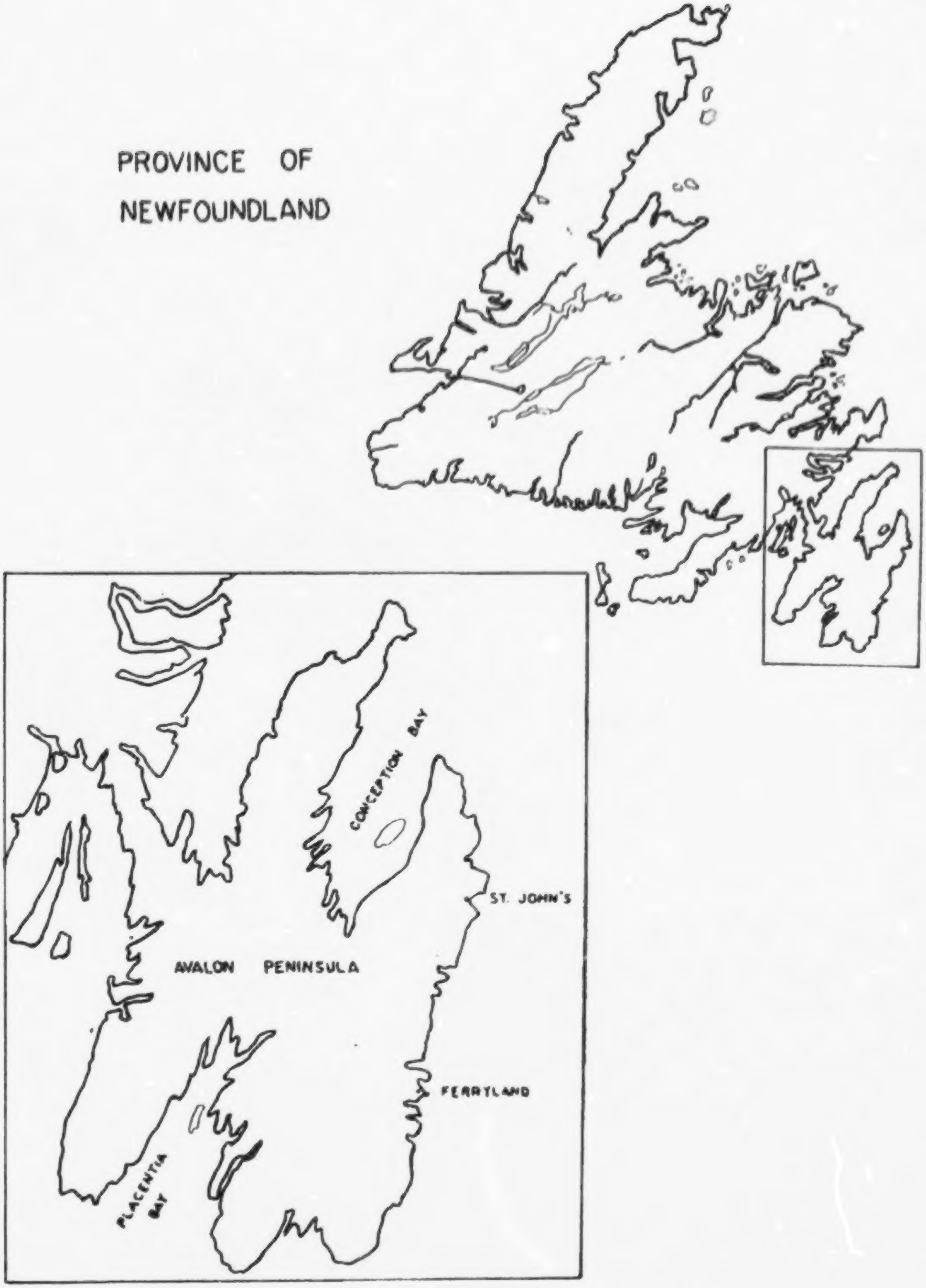
PROVINCE OF NEWFOUNDLAND
CONCEPTION BAY
ST. JOHN'S
AVALON PENINSULA
FERRYLAND
PLACENTIA BAY

Figure 2

Location of underwater survey and of Memorial University excavation

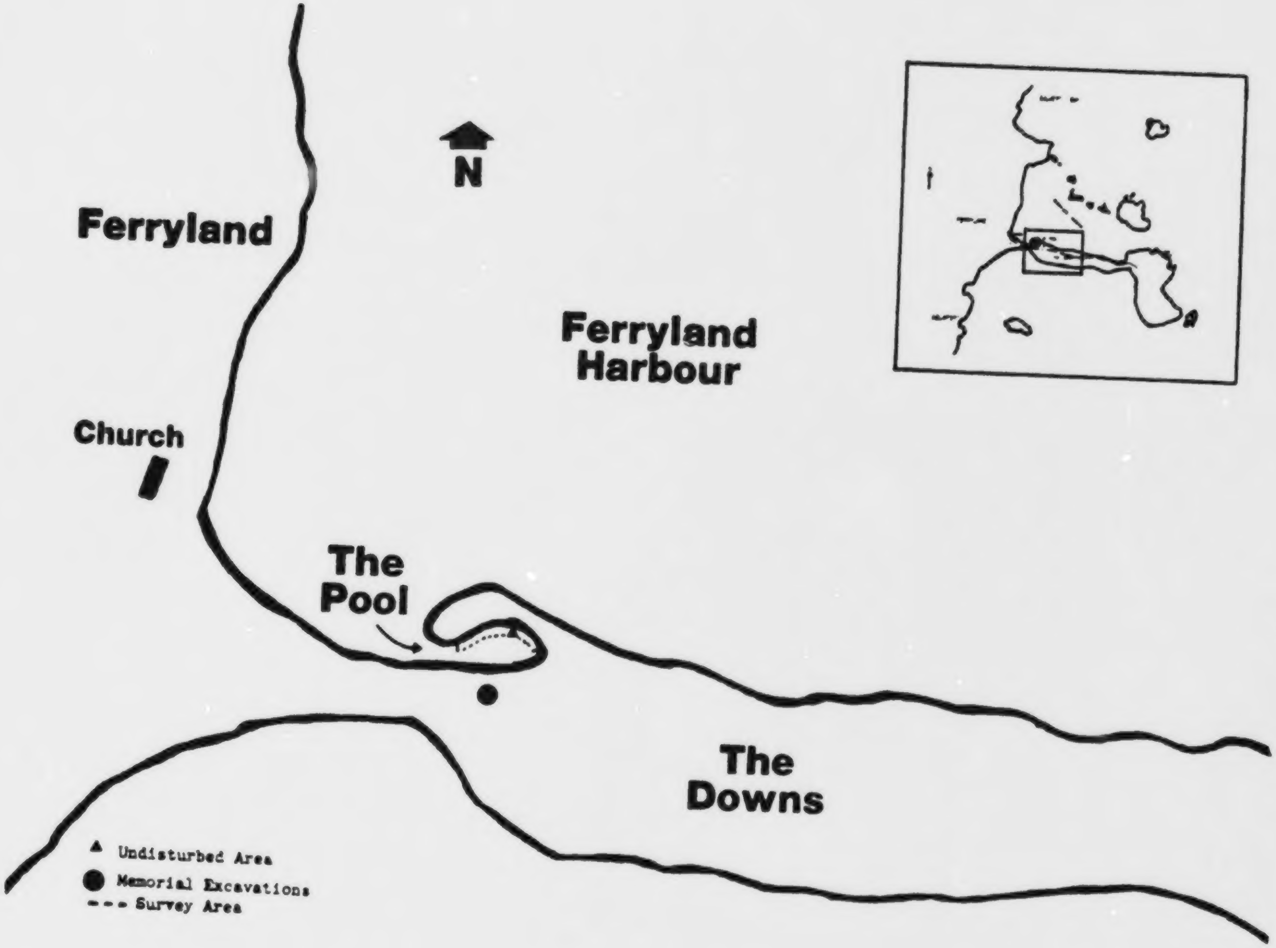
N
Ferryland
Ferryland Harbour
Church
The Pool
The Downs
▲ Undisturbed Area
● Memorial Excavations
- - - Survey Area

Figure 3

A. Rimsherd from storage/cooking or serving pot.
B. Iberian storage jar fragment.
C. North Devon earthenware.
D. Sgrafitto ware.

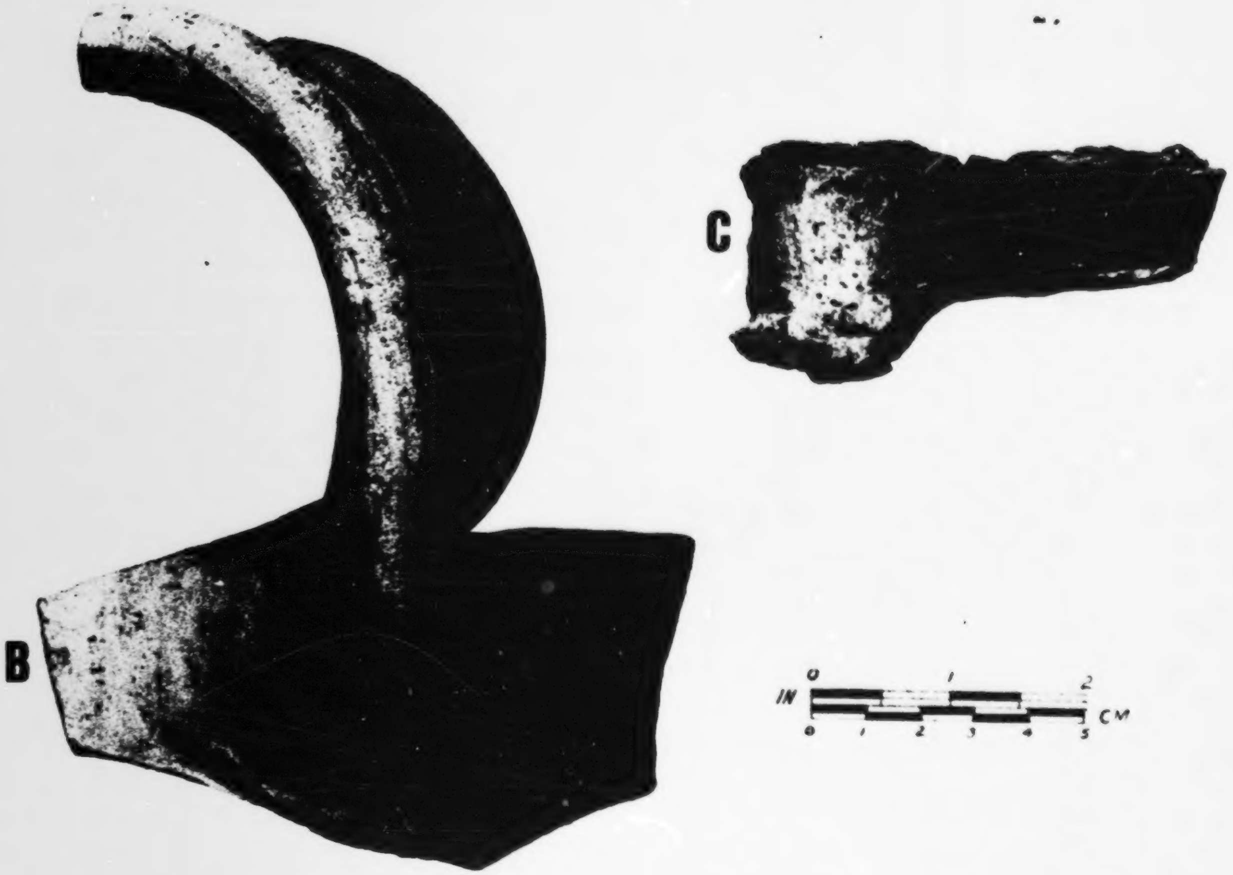
C
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Figure 4

Schematic section of bottom along north shore of Pool.

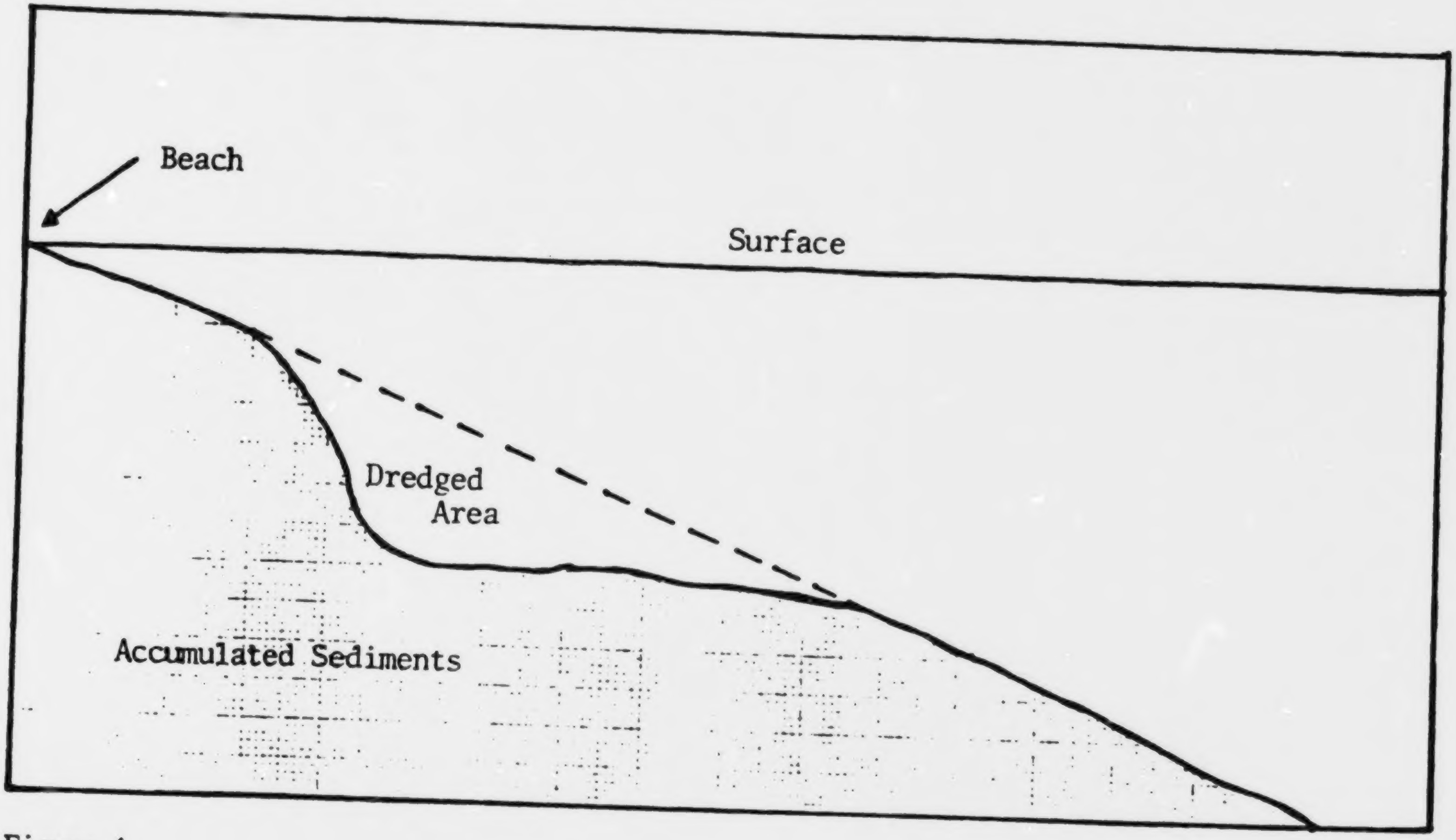
Beach
Surface
Dredged
Area
Accumulated Sediments

Figure 4

Schematic section view of bottom along north shore of Pool

Scale 1 cm = 1 m